Version 2.0

Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook

This page was last modified 03/01/02

1 INTRODUCTION

The purpose of the Interagency Burned Area Emergency Stabilization and Rehabilitation (ESR) Handbook is to provide general operational guidance for Department of Agriculture and the Department of the Interior burned area emergency stabilization and rehabilitation activities. It is designed to provide agency administrators and ESR specialists with sufficient information to:

- Understand ESR policy, standards, and procedures.
- Incorporate ESR into agency management planning.
- Develop a cost effective ESR Plan.
- Implement standard emergency stabilization treatments
- Assess ESR activities and prepare the necessary ESR Plan Accomplishment Reports

It also consolidates and provides an unified interpretation of the burned area emergency stabilization and rehabilitation policies, objectives, and standards for fire management presented in individual Department of Agriculture and Department of the Interior manuals and handbooks. Individual agency policy and procedure manual guidance can be more but not less restrictive then that presented in the Handbook.

The Handbook is supplemented by the Burned Area Emergency Stabilization and Rehabilitation Technical Reference. The Technical Reference contains information on effectiveness and implementation of individual treatments, information on individual burned area assessments, etc. The Handbook has numerous links to the Technical Reference.

The upper left column provides access to the Handbook. Hyperlinks within each page provide access to all the information in the Handbook as well as

additional information on the World Wide Web.

A complete e-book version of the Handbook is available below for viewing on-line or downloading and printing (requires Acrobat Reader browser plug-in). Left click to view on-line. To download and save for off line viewing and printing, right click and select - "Save Target As..." (Internet Explorer) or "Save Link As..." (Netscape) - to download. The Acrobat Reader print function can be used to print the complete e-book or each individual section individually. Internal e-book hyperlinks are always available, and external hyperlinks are available when connected to the internet.

ESR Handbook e-book

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2 WHAT'S NEW

- 6/1/01 - Everything
- 3/1/02 - Throughout the Handbook numerous typographical and spelling errors were corrected and a change from passive to active voice was implemented. The following chapters and sections have content changes:
    - Chapter 4: Agency supplemental policy updated, 4.2, and 4.4 new definitions, moved Exhibit 4-1 to the Technical Reference
    - Chapter 5: 5.1, 5.2, and 5.5. Sections 5.6. 5.7, 5.8, and 5.9 are new.
    - Chapter 6: Chapter reorganized. Content changes in 6.2.5, 6.2.6, 6.2.10, 6.3.1, 6.3.2.2, 6.3.2.3, 6.3.2.4, 6.3.3.1, 6.3.6, 6.3.7.1, and 6.3.9.
    - Chapter 7: 7.1, and 7.7. Section 7.12 moved to Chapter 8.
    - Chapter 8: 8.3 and 8.15.

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4 BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION POLICY IMPLEMENTATION GUIDANCE

4.1 POLICY AND PROGRAM ORGANIZATION

Burned area emergency stabilization and rehabilitation (ESR) activities are an integral part of wildland fire incidents. Departmental ESR policies are found in Department of Agriculture and Department of the Interior policy documents.

Individual agencies supplemented this policy as follows:

- U.S. Forest Service (USFS)
  - Exhibit 4-1
  - White Paper
- Bureau of Land Management (BLM)
  - Supplemental ESR policy (Exhibit 4-2)
- National Park Service (NPS)
  - Supplemental ESR policy (Exhibit 4-3)
- Bureau of Indian Affairs (BIA)
  - 90 IAM - Supplementary ESR policy (Exhibit 4-4)
  - BIA/NIFC Website
- U.S. Fish and Wildlife Service (FWS)
  - Service Manual 095 FW 3.9 (Exhibit 4-5)

4.2 OBJECTIVES

The objectives of ESR are to:

Emergency Stabilization

- To prescribe cost effective post-fire stabilization measures necessary to protect human life, property, and critical cultural and natural resources.
- To promptly stabilize and prevent further degradation to affected resources on lands within the fire perimeter or areas affected directly by wind or water erosion from the burned areas and repair damages caused by fire suppression operations in accordance with approved land management plans and policies, and all relevant federal, state, and local laws and regulations.

Rehabilitation

- To repair or improve lands damaged directly by the wildland fire and unlikely to recover naturally from severe wildland fire damage by emulating historic or pre-fire ecosystem structure, function, diversity, and dynamics according to approved land management plans.
- Restore or establish healthy, stable ecosystems in the burned area, even if these ecosystems cannot fully emulate historic or pre-fire conditions as specified in approved land management plans.

4.3 PROGRAM COORDINATION

The Directors of the BLM, FWS, NPS, Chief of the USFS, and the Deputy Commissioner of BIA are responsible for all burned area emergency stabilization and rehabilitation activities (including such activities when contracted for, in whole or in part, with other agencies or tribes) under the statutes cited in Forest Service Manual 2500 and Department of the Interior 620 Departmental Manual (DM) 3.1. Each wildland fire management agency is responsible for taking prompt and effective action in the burned area emergency stabilization and rehabilitation program and implementing Departmental policies.

Coordination of ESR effortswith the incident management team, USDA National Resources Conservation Resources Conservation Service (NRCS), appropriate state agencies, and local agencies and private landowners etc., to improve economic efficiencies in their related ESR programs is encouraged.

Preparedness

Internal/external coordination can be a critical process in the successful implementation and completion of all phases of burned area emergency stabilization and rehabilitation (ESR). Each fire presents a range of conditions that dictates the need for and level of internal/external coordination efforts. The ability of a unit to recognize the need for, and determine the level of internal/external coordination required very early in the ESR process should lead to a smooth transition between burned area survey and implementation of an approved ESR Plan.

There are several steps that a unit can take (thought process) that can lead to successful internal/external coordination. It is very important to identify key external agency contacts prior to the fire season, and when possible, hold a preseason ESR meeting to discuss roles and responsibilities. It is essential to acknowledge and understand that each agency has its own policies related to fire suppression and ESR. These policies are often based on laws and regulations and are binding and appropriate within the scope of ESR and the jurisdictional areas in which they apply.

Internally, it is also important to meet with all ESR team members, fire management staff, and other appropriate staff to discuss roles and responsibilities and clarify areas of disagreement and/or confusion. Early coordination among all individuals involved in the ESR process often prevents conflict at all stages of fire suppression through ESR treatment implementation.

Incident Management

In a wildland fire situation, it is recommended that you start the ESR process before the fire is contained, possibly 4 days prior to containment.

This should allow you to:

- Size up the situation
  - Identify emerging issues/concerns.
  - Conduct a preliminary analysis to identify values at risk.
  - Allows for as smooth transition between suppression rehab and ESR.

- Identify the Key Players
  - Player common to all incidents
    - State Forester's Office (i.e. California Department of Forestry and Fire Protection)
    - County Fire Department, (i.e. Los Angeles County Fire Department, Department of Forestry)
    - Natural Resources Conservation Service
    - Department of Fish and Game
  - Players common to some incidents
    - U.S. Fish and Wildlife Service
    - State Water Quality Control Board
    - Army Corp of Engineers
  - All others
    - Native Plant Society (seed source)
    - Local Governments
    - Individual landowners directly, or potentially, impacted by the fire
- Notify and inform
  - Public meeting(s)
  - Meetings with key cooperators
  - Daily ESR planning and implementation team briefings
- Follow thru
  - Maintain close contact with key cooperators and Line Officers and follow thru with any commitments or agreements that may have been made earlier.
  - Share resource information necessary to complete the appropriate reports
- Report out
  - Share burned area survey results and ESR treatment alternatives, including preferred alternative, with cooperators and agency administrators
    - Public meeting
    - Meeting with key players/cooperators
    - Formal letter to cooperators and/or affected individuals, organizations, etc.
    - All of the above.
  - It is recommended that you do not share estimated treatment cost with external cooperators/publics since some of the ESR treatments may be contracted out and it is not appropriate to run the risk of supplying a potential contractor with budgetary information that could bias his/her bid.

ESR Teams and the Incident Command System

ESR and Incident Command or Area Command Teams can have a number of different relationships. Examples during the past two years are shown below:

- Big Bar Incident – The ESR Team worked for the Agency Administrators and worked with and obtained some support from the incident management team's (IMT) and Area Command Team.
- Vivash and Cero Grande Incidents – The Interagency ESR Team was assigned to Area Command and worked with the four IMT's in the field and a short Type II IMT assigned to support the ESR Team. A large volunteer program also reported to Area Command and accomplished ESR tasks with support from the IMT's.
- Hamilton Area Command – ESR Team worked for the Agency Administrators and worked with the IMT's.

The Incident Command System is organized to provide services and skills in a number of areas that in some cases could help the ESR effort.

- Logistics Section and the tie to expanded dispatch.
- Finance Section and the tie to agency unit finance section.
- Plans Section and tie to GIS and mapping services.
- Safety Officer.
- Operations Section.
- Information Officer.
- Human Resource Specialist.

The Command position in the ICS process can have a number of different roles with a ESR Team.

- An Area Command may be in place with a number of incidents and IMT's working for the Area Commander. There may be advantages in the ESR Team being assigned to Area Command in this case to give a common supervisor of all actions taking place on the incidents.
- The Incident Commander and ESR Team can both work for a common Agency Administrator who can help coordinate tasks and roles of both organizations.
- If a Unified Command is in place for the IMT, the ESR Team may be doing a plan for many federal, state, and local agencies with a common set of Agency Administrators for both organizations.

A number of areas and issues need to be addressed in the selection of an organizational model when a ESR Team and an IMT or IMT's and Area Command are in place at the same time.

- The assigned objectives of both the ICS and ESR Team must kept in focus.
- How can ordering be best handled for both organizations. Will all orders be placed through expanded dispatch? Does expanded dispatch report to the Agency Administrator or Area Command?
- Will both organizations be sharing or needing common resources such as aviation, materials, ground equipment, hand crews, fire specialists?
- What is the experience level of the ESR Team, ICS organization and Agency Administrator in working together.
- What is the complexity level of both the ESR and suppression efforts.

ESR, Incident and Area Command Teams all need to improve their understanding of the other organizations roles and mission. A number of common organizational models may need to be developed so Agency Administrators can select from a list of options that are understood and supported by both ESR and Incident Command Teams.

ESR Treatment Implementation

- Identify all of the players:
  - Once treatments have been agreed on and funding approved, it is critical that all players involved in ESR treatment implementation be brought together and identify, define and clearly articulate individual roles and responsibilities. It is normally during this phase when an Implementation Team Leader(s) should be assigned the responsibility/leadership to assure full implementation of ESR treatments.
- Size up the situation:
  - Take this opportunity to clearly identify the resources that are necessary to accomplish approved treatments.
  - Get commitment from Line (Forest Supervisor/District Ranger) on resource availability.
- Follow thru:
  - Assure that ESR treatments are implemented and completed prior to the first damaging winter storm.

- Inform/Inform/Inform:
  - It is critical to keep Line, Forest ESR Team Leader, Regional ESR Coordinator, external partners, and concerned individuals informed as to the status of ESR treatment implementation.
    - Weekly contact with District Ranger and Forest ESR Team Leader
    - Weekly briefings at ministaff meetings
    - Periodic contact with Regional ESR Coordinator
    - Periodic contact with external partners/concerned parties.
- Report Out:
  - Share ESR treatment implementation results with cooperators and Line Officers.
    - Public meeting
    - Meeting with key Players/cooperators
    - Formal letter to cooperators and/or affected individuals, organizations, etc.
    - All of the above.

4.4 DEFINITIONS

Agency. Organizational units within the Department of Agriculture or Department of the Interior

Agency Administrator. The line manager having direct organizational responsibility for management of an administrative unit. May include Director, State Director, District Manager or Field Office Manager (BLM); Director, Regional Director, Complex Manager or Project Leader (FWS); Director, Regional Director, Park Superintendent, or Unit Manager (NPS); or Director, Office of Trust Responsibility, Regional Director, or Superintendent (BIA).

Approved Land Management Plan. An agency planning document identifying appropriate land and resource management objectives and management actions.

Burned Area Emergency Stabilization and Rehabilitation (ESR) Plan. A document that specifies treatments required to implement post-wildland fire stabilization and rehabilitation policies on an individual incident. This plan may be programmatic (prepared in advance and applicable to clearly defined types of incidents and situations) or prepared by an interdisciplinary team of specialists during or after the control of a wildland fire.

Burned Area Emergency Stabilization and Rehabilitation (ESR) Team. A standing or ad hoc group of technical specialists (hydrologists, rangeland management specialists, biologists, soil scientists, etc.) that is assigned to prepare an Emergency Stabilization and Rehabilitation Plan.

Burn/Fire Severity. A relative measure of the degree of change in a watershed that relates to the intensity of the effects of the fire on watershed condition.

Emergency Stabilization. Planned actions taken during or soon after a wildland fire to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life or property resulting from the effects of a fire, or to repair/replace/construct physical improvements necessary to prevent degradation of land or resources.

Facilities. The field unit infrastructure necessary to implement their approved land management plans.

- Minor
- Major

Field Unit. The agency organization level responsible for planning and implementing Burned Area Emergency Stabilization and Rehabilitation Plans (e.g., National Forest, Park, Wildlife Refuge, BLM District, Reservation, etc.).

Fire Suppression Activity Damage. Damage to resources, lands, and facilities resulting from wildland fire suppression actions, in contrast to damages resulting from a wildland fire itself.

Fire Suppression Activity Damage Rehabilitation. Actions primarily planned and performed by the suppression incident organization as soon as possible before demobilization to rehabilitate fire suppression activity damage.

Mitigation. Actions to moderate the intensity or severity of detrimental post-fire effects on natural and cultural resources when preventive treatments are not cost-effective or practical. The scope and cost of mitigation should be the minimum necessary to alleviate significant threats.

Non-Native Invasive Species. Species that were not components of pre-European settlement vegetative communities: which have been introduced, either deliberately or inadvertently; which have the capacity to aggressively

invade new habitats, displacing and out-competing native species, and; whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Prescribed Fire. Any fire ignited by management actions to meet specific objectives which are authorized by a prescribed fire plan.

Prevention. Emergency actions to prevent unacceptable post-fire degradation of natural and cultural resources by stabilizing soil, biotic communities, and critical or significant historic properties, and emergency actions to minimize risks to life and property.

Rehabilitation. Long-term post-fire efforts to repair or improve lands unlikely to recover naturally from wildland fire damage, or to repair or replace fire damaged facilities.

Restoration. The continuation of rehabilitation beyond the initial 3 years of Emergency Rehabilitation funding or the repair or replacement of major facilities damaged by the fire. Restoration is not within the scope of the Burned Area Rehabilitationsubactivity funding. Major facilities are repaired orreplaced through supplemental appropriations of other funding.

Suppression. A management action intended to protect identified values from a fire, extinguish a fire, or alter a fire's direction of spread.

Wildland Fire. Any non-structure fire, other than prescribed fire, that occurs in the wildland.

Exhibit 4-1 USDA FOREST SERVICE SUPPLEMENTAL EMERGENCY STABILIZATION and REHABILITATION GUIDANCE

The primary source of policy and direction for the USDA-Forest Service Burned Area Emergency Rehabilitation (BAER) program is found in FSM 2523 (May 25,2000). Guidance also currently exists in the form of FSH 2509.13. When finalized, this Interagency ESR Handbook is expected to make the FS Handbook obsolete. Information and guidance also can be found at http://fsweb.gsc.wo.fs.fed.us/baer/

The USDA-Forest Service BAER program is similar in most respects to the Stabilization component of the DOI program. However, several significant differences apply. Emphasis is on rapid assessment and implementation of short-term treatments, usually applied within a few months after the burn. BAER is part of the overall emergency response to fire and, therefore, emergency procurement procedures may be used to expedite the process. Long-term rehabilitation and restoration needs on National Forest lands that cannot be implemented in this timeframe, or would not have immediate benefits, are addressed with other program funding, including the National Fire Plan.

Chapter 5 PROGRAM ADMINISTRATION

USDA–Forest Service policy is that the BAER account

- may be used to fund assessment teams as soon as the appropriate job code is established (in the Regional Office). There is no need for USDA–Forest Service BAER teams to charge directly to the suppression account. A liaison position on the BAER team can work with the Incident Management Team to identify the need for Resource Advisors and facilitate the assessment, documentation and initiation of actions to address suppression-related rehabilitation concerns.

- is not used to assess “damage” that has already occurred due to the fire. BAER survey focuses on those areas and sites for which information is needed to formulate decisions expected to reduce further damage on or below the burned area. This includes conducting “Fire Damage Assessments” to describe damage to historic properties and TE&S species. While the survey may document post-fire conditions, the intent is to focus on public safety and resource protection. The burn assessment is not intended to be comprehensive or serve the development of other resource project proposals.
- is not used for Law Enforcement, patrolling for public safety or cultural resource protection. This includes covering, camouflaging, cleaning, or burying historic properties to prevent looting. While this activity has merit, Law Enforcement is funded by a separate and distinct line item in USDA–Forest Service.
- may not be used for replacement or repair of fire damaged minor facilities, except as required for health and safety. This would exclude work on campgrounds, interpretive signs, shade shelters, fences, wildlife guzzlers, boundary signs and corrals. Examples of minor facilities that are appropriate for replacement are traffic signs and guardrail.

NEPA, Exhibit 5-2

The “Environmental Compliance Considerations and Documentation” process described in Exhibit 5-2 is not a requirement for USDA–Forest Service. However, this process may be useful to facilitate interaction with other agencies and consultation on specific matters of concern. Each agency has its own way of documenting decisions and complying with NEPA.

Chapter 6 PROGRAM STANDARDS

6.3 [as mentioned also above in 5.2] USDA–Forest Service policy is to assess only the known historical sites, not the whole burned area. BAER funds may not be used for Law Enforcement, patrolling for public safety, or cultural resource protection. This includes covering, camouflaging, cleaning, or burying historic properties to prevent looting. While this activity has merit, Law Enforcement is funded by a separate and distinct line item in USDA–Forest Service.

6.42 USDA–Forest Service does not require that burned areas “be

closed to livestock grazing for at least two growing seasons…". Fencing or changes in grazing practices are options to be considered to prevent unacceptable disturbance or to protect seeded areas. Management decisions such as this should be made in the field.

6.43 USDA–Forest Service policy does not include the 'initial fire damage assessment of timber loss' as a BAER activity. Reforestation is generally considered outside the scope of Emergency Stabilization and is funded by the reforestation line item. Recommendations for planting trees or shrubs for resource stabilization purposes up to $25,000 will be evaluated on merit.

6.6 [also in 7.4] Safety is first. Working in recently burned areas can be dangerous. BAER personnel should be briefed daily on general situational hazards in the burned area, including stump holes, rolling rocks, and falling trees. Specifically dangerous locations should be flagged. Job Hazard Analysis Form FS-6700-7 (3/98) should be completed prior to the BAER team beginning its on-the-ground assessment of the burned area.

6.7.1 USDA–Forest Service policy is to not experiment when responding to an emergency. Limited variations within the established treatments may apply, such as hand-raking to prepare compacted soil for seeding. It is generally appropriate to monitor and report on the success and effectiveness of the methods used.

6.8.1 [as mentioned also above in 5.2] USDA–Forest Service policy is not to use BAER funds for replacement or repair of fire damage to facilities, except for minor facilities required for health and safety purposes. This would exclude work on campgrounds, interpretive signs, shade shelters, fences, and wildlife guzzlers, boundary signs and corrals.

6.8.3 USDA–Forest Service policy does not require inspection by a qualified engineer for hazardous conditions/materials and structural integrity of structures affected by fire. Inspections such as these are not an appropriate use of BAER funds.

6.21.3 USDA–Forest Service policy does not provide for the "removal" of values at risk. The purpose of BAER is to install treatments that are reasonably certain to prevent critical post-fire damage from occurring.

7.1 USDA–Forest Service BAER teams are generally organized *ad hoc, as* needed for each event at the discretion of the local line officer. Forests may have organized interdisciplinary planning teams in place capable of this assignment. Sharing qualified resources between forests and regions is encouraged. Regional BAER Coordinators communicate and expedite the filling of team positions when qualified personnel are not available on the local unit. The Interagency ESR standing team is also available on-call to assess and initiate actions on complex and multi-jurisdictional situations. When local resources resume responsibility for the project, there should be a formal transition meeting. At that time, the non-local resources are relieved of further attention to the project.

7.2 and 7.5 Fire Damage Assessment.

[as mentioned also above in 5.2] USDA – Forest Service policy does not provide for comprehensive Fire Damage Assessment. Having detailed information on the extent of fire damage is not a prerequisite to prescribing most emergency stabilization treatments to prevent post-fire damages. A rapid and focused needs assessment is expected to provide the essential information sufficient to initiate critical treatments without delay.

7.12 and 8.15 Accomplishment Reports

Progress reports are due December 15st annually. The report should contain accomplishment information on treatments installed as of December 1st, and financial information on expenditures as of October 1st. The report should be in MS Excel format.

Exhibit 4-2 BUREAU OF LAND MANAGEMENT SUPPLEMENTAL EMERGENCY STABILIZATION and REHABILITATION GUIDANCE

This guidance supplements the Interagency Emergency Stabilization and Rehabilitation Handbook and together these two documents **replace** Bureau of Land Management (BLM) Handbook 1742. This supplement provides detailed information specific to the BLM policies, standards, and procedures used in the Emergency Stabilization and Rehabilitation program.

Emergency Stabilization and Rehabilitation (ESR) Policy

The objective of the Bureau's ESR program is to mitigate the adverse effects of fire on the soil-vegetation resource in a cost-effective and expeditious manner and to minimize the possibility of wildland fire recurrence or invasion of weeds. The purpose of rehabilitation is either to emulate historical or pre-fire ecosystem structure, function (including the re-establishment of the natural fire cycle), diversity, and dynamics consistent with approved land management plans, or if that is infeasible, then to restore or establish a healthy, stable ecosystem in which native species are well represented. Regional or State Rangeland Health Standards and Guidelines may include additional direction concerning post fire rehabilitation.

Appropriate use of ESR funds includes implementing practices to:

1. Protect life, property, soil, water (including water-dependent resources) and/or vegetation resources.
2. Prevent unacceptable on-site or off-site damage.
3. Facilitate meeting land use plan objectives in conformance with land use plan decisions contained in local plans (per the Federal Land Management Policy and Management Act of 1976) and other applicable federal laws.
4. Reduce the establishment of undesirable or invasive species of vegetation.
5. Assist in meeting State or Regional Standards for Rangeland Health.
6. Repair or replace BLM minor facilities or structures destroyed or damaged by fire.

PROCESS TO PREPARE AND IMPLEMENT NORMAL FIRE REHABILITATION PLANS, EMERGENCY STABILIZATION & REHABILITATION PLANS, or NORMAL

FIRE REHABILITATION PLAN SUPPLEMENTS

Normal Fire Rehabilitation Plan (NFRP)

The NFRP should be prepared on an eco-region/watershed basis at the District, Field Office, or fire management zone level by an interdisciplinary team. To avoid redundancy, depending upon the situation, they may be prepared up to the sub-basin or Land Use Plan (LUP) level. The decision to prepare an NFRP is based on the size and diversity of the ecosystems involved, fire history (wildland fire occurrence and size), resource values, and resource management objectives and decisions in land use plans. State directors may require that NFRPs be prepared for all or part of the public lands within their area of jurisdiction in accordance with this Handbook and the responsibilities and policy in Manual Sections 1510, 1742, 1625-1,1790-1 and 9210.

State directors are delegated approval of NFRPs and may delegate approval of the supplements prepared for individual fires to the appropriate authorized official (within the $100,000 maximum approval authority granted each state for an ESR project).

Normal Fire Rehabilitation Plan Supplement

The NFRP supplement describes the site-specific rehabilitation actions to be taken, additional input and analysis, including public input, with the Decision Record, and requires the Decision Record and Rationale documentation to complete the process..

Emergency Stabilization and Rehabilitation Plan (ESRP)

A site-specific ESRP is developed by an interdisciplinary rehabilitation team for post wildland fire resource needs in those areas not covered by an NFRP. The development of this plan is based upon the same factors as for NFRP. The ESRP contains a site-specific EA with opportunity for public input and generally is the preferred ESR procedure where wildland fire size and frequency do not warrant the time or effort to prepare a comprehensive NFRP and needed Supplement(s).

The local authorized officer (Manual Section 1203) is responsible for preparing all ESR plans; however, if the plan proposes introductions of non-native plants,

it must be approved by the state director (Manual Section 1745.16).

An Environmental Assessment or Supplement should be prepared for NFRP's, NFRP Supplements, and ESRP's in accordance with instructions in the BLM's National Environmental Policy Act Handbook (H-1790-1). The EA for the NFRP and ESRP should *also*:

1. Address applicable land use plans ensuring that treatments identified in NFRPs and ESRPs are consistent with the land use plan objectives and decisions. Tier from existing Environmental Impact Statements for Land Use Plans or other applicable NEPA documents.
2. Discuss how the proposed rehabilitation treatments, which could include no treatment, would facilitate the meeting of ESR and land use plan objectives. List potential species and discuss impacts of using introduced and native species (incorporate appropriate components of the Native/Non-native Worksheet (see Interagency ESR Handbook Exhibit 6-1) in the EA).
3. Consider cumulative impacts of past wildland fires and rehabilitation projects in the proposed treatment area. The positive effects of rehabilitation should be considered for reducing invasion of non-native annual as well as and providing fuel breaks for future wildfires.
4. Summarize the consultation and coordination efforts with the public and other agencies.

A Finding of No Significant Impact (FONSI) or Decision Record is required for all NFRP supplements and ESRPs. If significant impacts are found, an Environmental Impact Statement or other means of addressing NEPA may be required as per the NEPA Handbook.

The state director may delegate ESR plan approval to a lower level if the intent of Manual Section 1745.16 is met through the EA process or the analysis contained in the Native/Non-native Worksheet (Illustration 3).

Burned Area Emergency Rehabilitation (BAER) Plan

This approach may be employed after a wildland fire that includes multiple agency ownerships, there are high values at risk, or on large complex wildfires where preparation of an ESR plan is beyond the capability of the local staff. National interagency teams (BAER) have been identified and are available upon request through the interagency dispatch system.

The Authorized Officer is still responsible for insuring that the plan is in conformance with any applicable LUPs and in compliance with NEPA and other applicable laws (Endangered Species Act, Archeological Resources Protection Act, etc). In addition, the Authorized Officer can in his/her decision document approve only parts of the BAER plan which he/she concludes to meet immediate and mid term needs of the lands or resources of the area in question.

PLAN DEVELOPMENT AND FUNDING

In areas where an NFRP exists or after a wildland fire has occurred and the authorized officer believes resource conditions, property or life and safety deserve a more intensive review, the following options are available:

1. Burned Area Emergency Rehabilitation Team/Plan

The approach is generally employed after a wildland fire that includes multiple agency ownerships or on large complex wildfires where the preparation of an ESRP is beyond the capability of the local staff. The plans are generally very large and complex involving a large team of ten or more specialists. The BAER team may be requested through the Incident Command System prior to wildfire control or later through the appropriate line management decision process.

2. State Technical Assistance and Review Teams

State Technical Assistance Teams (STATs) may identified by each state. These teams would be responsible for providing technical review and oversight to the individual field offices during the development of all NFRPs and ESRPs (plans). This could expedite the review and approval process of the plans. State Directors can establish STATs that either prepare or assist Field Offices in plan development to insure that consistent plans and problems or questions are addressed and resolved in the development process. The teams would be made up of a senior technician and subject matter experts from within the states existing table of organization. It is recommended that the typical STATs would consist of a team leader (state ESR coordinator) and two to three field office senior technical specialists, who have both fire ecology

and fire effects knowledge. These STATs could act as a state level "BAER" team. The need for such a team depends wildland fire activity and skill levels at the Field Offices.

3. Local Interdisciplinary Rehabilitation Team

The appropriate responsible/designated line manager assembles an Interdisciplinary Rehabilitation Team (IRT), including a team leader, to begin the evaluation procedure to determine if and what kind of rehabilitation treatments, and monitoring are needed. The IRT should be assembled and ready to begin the ESR process as directed by the field office manager. The resource advisor assigned to the incident management team (IMT) should work directly with the ESR team during and after the wildland fire.

The disciplines represented by the IRT will vary according to the complexity of the fire, resource concerns, and availability of personnel with different skills and backgrounds. Generally, the team should include two to four resource specialists (resource advisor, wildlife, ecology, range, watershed, weeds, etc.), a member knowledgeable about soils and a representative from operations familiar with seeding equipment and contracting. A team member may represent several skills. Including expertise from cooperating agencies or offices in the team effort is encouraged, especially when the needed skills are not available within the BLM. As indicated earlier, when an interagency team is needed on a complex wildland fire that crosses agency boundaries, a Burned Area Emergency Rehabilitation Team (it may be a USDI or USDA BAER Team) may be requested.

Funding to Evaluate Wildland Fires for Rehabilitation

District or Field Office managers may request up to two work months of immediate funding in subactivity 2822 from the state budget officer or include these costs in ESRP to finance fire evaluations and ESRP plan or NFRP supplement preparation. In all cases, the project number to be used is the same as the wildland fire incident number assigned during the fire management effort. All operational costs (aerial photography, GPS work, etc.), travel, and work months for district or non-district IRT members, may be charged to the appropriate ESR funding/project code. A

completed "Construction and Acquisition Job Number Assignment Form 1310-12" must be submitted to the Accounting Group, BC-610 (Business Center, Denver). This step is necessary to set up an account to begin funding ESR actions.

ESR Plan Approval

In keeping with the intent that there is a need for immediate stabilization (therefore an emergency), all ESR plans shall be signed by the authorized officer within **21 calendar days** from wildland fire control unless a specific extension is granted by the appropriate State Office. Extensions should be no longer than two weeks. Plans costing less than $100,000 are reviewed at either the district/field office or state office level for technical and policy consistency as specified in the appropriate delegation of authority prior to approval by the authorized officer. Plans costing more than $100,000 to implement are reviewed at the state office level for technical and policy consistency prior to submission to the Washington Office for approval.

Review and technical assistance teams for ESR plans are recommended and their structure and duties should be established on a state by state basis. The authorized officer may request review and input from the district, state office and Washington Office level on any ESR plan. The use of electronic means of transmitting ESR plans is encouraged.

Any office conducting an ESR plan review is required to complete the review within **seven calendar days** of receiving the document. Approval of ESR plans may be as simple as a phone call, followed by hard-copy documentation. Both State rehabilitation coordinators and State Budget Officers should be notified of Washington Office plan approvals.

ESR Plan Implementation

Actions to implement ESR treatments may begin immediately upon plan approval and submission of Form 1310-12. Implementation should begin as soon as necessary to complete the treatment prior to the onset of winter or weather shutdowns. However, periodic weed monitoring and control may extend well into the next growing season. Clearances (cultural, sensitive species, etc.), equipment, and seed availability may also delay implementing rehabilitation treatments in a timely manner. Therefore, potential delays or issues should be addressed early in the implementation process to facilitate completion of ESR treatments at the proper time, including out-year treatments,

to ensure maximum probability of success. All protective fences should be functional prior to livestock use of unburned adjacent rangeland.

Appeals of ESR plans are possible and may delay implementation. All ESR decisions, except "full force and effect" decisions, require a 30-day implementation delay (43 CFR 4.21(a)(1) and 2). Therefore, potential concerns should be addressed early in the ESR process to avoid appeals and the subsequent delays in treatment implementation.

ESR Plan Completion Reports

Two reports are prepared upon completion of all ESR treatments. A "Rangeland Improvement Project System" (RIPS) form (Worksheet 1744-1) is submitted via home office computer to the Service Center User Representative (SC 212) , with a copy placed in the ESR Project File. RIPS information must be entered in the RIPS system in a timely manner, using most recent guidance and project finance codes or fire numbers as applicable. **The BLM MIS system will be updated with both costs and accomplishments as program elements are being completed.**

An ESR Project Completion Report is prepared and filed in the ESR Project File within **90 days** of project completion (see Interagency ESR Handbook Exhibit 7-9). This report contains information on actual seeding rates (based on pure live seed), timing and conditions during seeding, and information on other treatments (including a map of actual treatment application areas). The information is essential to interpret results from monitoring studies on the treatment areas.

Project Monitoring and Evaluation

Treatment monitoring is addressed in the Interagency ESR Handbook. The results from the monitoring studies will be analyzed, evaluated and shared with others to improve the success of future ESR projects. Monitoring data and reports will be permanently filed in the appropriate location such as the project file, allotment management plan, habitat management plan, herd management plan, or other files and should be used in any assessment or evaluation of resource functionality, i.e. Standards for Rangeland Health.

STANDARDS FOR USE OF EMERGENCY STABILIZATION AND REHABILITATION FUNDS

ESR funds will only be expended on lands administered by the BLM and are not authorized for use on private lands. (An exception is when the Wyden Amendment may apply, for further guidance, consult IM- 99-06).

Timeliness

Congress has determined that "it is in the best interest of the Nation to take swift action to rehabilitate burned lands." Therefore ESR treatments must be implemented, to the extent possible, before additional damage occurs to the burned site or undesirable vegetation becomes established. Treatment must occur at a time that will ensure a high or maximum probability of success. Therefore, ESRPs and NFRP supplements should be submitted to the next level of management review or approval within **21 calendar days** of wildland fire control. Extensions to the 21-day submission requirement must be approved at either the State or Washington Office level (depending upon cost), and are limited to two weeks. State office review and/or approval and Washington Office budget approval for plans more than $100,000 must be completed within **seven calendar days** of receiving the ESRP or NFRP Supplement.

Equipment

Capitalized or non-capitalized equipment will not be purchased with ESR funds without review by the Washington Office, Division of Budget (WO 880) and written approval of the Director. Purchasing equipment must be shown to be more economical than leasing it before it will be considered for approval by WO 880.

Livestock Management

Exclusion of livestock is critical for the recovery of burned vegetation or establishment and maintenance of new seedings and use of these areas should not be permitted until the vegetation recovers or is established.

Both re-vegetated and, burned but not re-vegetated areas, will be closed to livestock grazing for at least two growing seasons following the season in which the wildfire occurred to promote recovery of burned perennial plants and/or facilitate the establishment of seeded species. Livestock permittees must be informed of the closure early during the plan preparation process, and livestock

closures will be made a condition or term on the grazing license or permit through the issuance of grazing decision (see 43 CFR 4160). Livestock closures for less than two growing seasons may be justified on a case-by-case basis based on sound resource data and experience. Livestock management following seedling establishment and/ or burned area recovery should maintain both non-native and/or native species to meet land use (including Standards for Rangeland Health and Guidelines for Grazing Management) or activity plan objectives.

Threatened, Endangered and Sensitive Species

The policy of the BLM is to conserve threatened and endangered (T&E) plant and animal species through conservation of the habitats upon which they depend and work closely with the U.S. Fish and Wildlife Service on species protection. All fire rehabilitation plans should be reviewed to determine if T&E species or their habitat would be adversely affected by the implementation of rehabilitation treatments. The BLM will consult with the U.S. Fish and Wildlife Service (or National Marine Fisheries Service, as appropriate) on all actions that may affect a listed species or its habitat to ensure compliance with Section 7 of the Endangered Species Act. A similar process is required for state agencies when state-listed species are involved. The BLM policy on federally listed species, species proposed for listing, candidate species, sensitive species, and state-listed species is contained in Manual Section 6840. The Manual should be reviewed for additional management requirements for proposed species. Time frames for review and consultation may last several months. Therefore, every effort should be made to initiate these actions early in the ESR planning process. As a result of the National Fire Plan efforts there may be procedures than can expedite the consultation process on T & E species. In addition, some locations or regions may have additional guidance that has been developed to enhance the conservation of habitats for some species (examples could include lynx or sage grouse).

Forest Rehabilitation

For direction on forest rehabilitation please consult the Interagency ESR Handbook

Wilderness Study Areas.

Handbook H_8550_1 includes BLM policy and guidance for management of wilderness study areas (WSAs) and should be consulted. WSAs must be

managed in a manner so as not to impair their suitability for preservation as wilderness. Impacts from the equipment used for seeding must be carefully planned to be the least intrusive necessary to obtain a successful seeding. The use of native species is required in WSAs (except where "reclamation activities are designed to minimize impacts to wilderness values created by IMP violations and emergencies"H-8550-1 B.,2 pg 9). Consult current instruction memoranda, WSA Handbook H_8550_1, and the Bureau's local, state or national wilderness specialist prior to implementing ESR treatments in a WSA**.** Exceptions to the use of non-motorized equipment in a WSA must be fully justifiable based upon an imminent and severe threat to high downstream values. Coordination with interested public and wilderness organizations is encouraged early in the ESR planning process.

Designated Wilderness Areas

Manual Section 8560 and Handbook H_8560_1 (Management of Designated Wilderness Areas) provide guidance on surface disturbing activities in wilderness areas. Wilderness management plans are required for all designated wilderness areas and should be reviewed during ESR plan development. Emergency stabilization and rehabilitation treatments in designated wilderness areas may utilize native or naturalized non-native species such as crested wheatgrass where there is no reasonable expectation of natural regeneration. Seeding equipment used in these areas must be the minimum necessary to successfully distribute the seed into a suitable seed bed. Overland motorized equipment will not be used where non-motorized equipment can accomplish the rehabilitation objective(s). Activity plans such as NFRPs and ESRPs must conform with wilderness management plans.

Recreation

Burned or seeded areas may be temporarily closed to the public (43 CFR 1840.11) by excluding vehicle, bicycle, horse, and foot use if unacceptable resource damage would occur, or if danger to the public is present due to fire damage or rehabilitation activities. Such closures require following the National Environmental Policy Act process (may be a part of the ESR/NEPA documentation included in the NFRP or ESR Plan) and issuing a Federal Register Notice, and sufficient public notices.

Costs to enforce public restrictions or closures and accomplished within existing program funding (e.g., benefitting activities), except in extraordinary situations which require justification and approval in the ESR plan.

Visual Resources

Impacts of rehabilitation practices on visual resources (see Visual Resource Inventory Manual Handbook H-8410-1) should be considered in all ESR plans. A Visual Contrast Rating Worksheet (Form 8400-4) or a checklist is required for all rehabilitation projects (see Manual Handbook H-8431-1, Visual Resource Contrast Rating).

Treatment Specifications

All ESR treatments (fences, culverts, water bars, etc.) must comply with applicable BLM policy and standards (as specified in the Engineering Guide Specifications and Standard Drawings, and Manual Section 9170). Treatments should be designed to be cost_effective and to meet rehabilitation objectives. Rehabilitation treatments which could cause unacceptable soil disturbance require input and recommendations from soil specialists on project design and mitigation.

Suppression Activity Damage

Damage to improvements and/or to resources caused by fire suppression activities should be repaired using emergency fire suppression funds. This work should be completed prior to final demobilization of the suppression forces whenever practical. (See Interagency ESR Handbook section 6.23).

The following repair activities (necessitated by suppression work) will be completed with wildland fire suppression funds, not ESR funds:

1. Replacement of soil and seeding vegetation on fire control lines (may be delayed until the appropriate time to ensure seeding success).
2. Construction of water bars on primary and secondary fire control lines.
3. Repair of structural improvements or facilities (e.g., fences) damaged by suppression activity.
4. Repair of damage caused by operating the incident command base (spike camps and roads).

Standards for Rangeland Health Guidelines for Grazing Management

On August 21, 1997 new BLM grazing regulations were implemented that,

among other things, established a framework for the development of Standards for Rangeland Health and Guidelines for Grazing Management (43 CFR 4180.1). These standards and guidelines were developed on a state-by-state basis in coordination with the resource advisory councils to ensure that rangelands were being managed for long-term health (e.g., proper functioning of ecological processes, "stable watersheds," clean water and threatened and endangered species habitat).

BLM state standards and guidelines should be reviewed and incorporated as part of the ESR planning process to ensure compliance with the intent of these regulations and land use plan in concert with the objectives of the ESR program. All existing NFRPs should be reviewed and modified (if necessary) prior to the next fire season to ensure compliance with standards and guidelines. The application of additional restoration processes to obtain full ecological process function must be funded through sources other than the ESR program.

REGIONAL SEED WAREHOUSE

The Regional Seed Warehouse is located at the Lower Snake River District Office in Boise, Idaho. A wide variety of native and introduced seed is purchased, tested and stored at this facility. This facility will purchase and store seed for other states as described in a formal agreement (memorandum of understanding) with the Idaho state director. The amount of seed each state can reserve should be based on a reasonable projection of the annual acreage to be rehabilitated over a five-year period and the storage capacity of the warehouse.

Seed reserved through the Memorandum of Understanding (MOU) is held until September 1 each year for the requesting state and is available by requisition until this date. After September 1, any part of a state’s reserved seed that has not been obligated with a requisition is available for any other state/district use. States or districts that do not have MOUs with the Idaho state director can acquire seed not reserved by another state at any time by submitting a requisition. The use of the Regional Seed Warehouse is not mandatory. Seed may be purchased locally if it is more practical or desirable to do so.

All seed purchased by the Regional Seed Warehouse is tested for purity, germination and state- listed noxious weeds and other weeds, for eleven western states. States who are not a party to the above mentioned MOU and

purchase seed on their own, will need to complete tests to comply with that state's noxious weed law(s).

RANGELAND DRILLS

The Vale District in Oregon operates the Rehabilitation Equipment Maintenance Center (Drill Shop) which maintains the Bureau's fleet of rangeland drills, *carts,* and plows for site preparation and seeding of burned rangeland. The reservation of these drills is based on the supply on hand when the request is made, their transportation should be negotiated between the requesting office and the Vale district personnel. If equipment transportation is requested, a charge code and project number are required by the Vale District.

All drills should be returned as soon as practical to Vale for required maintenance. ***The drills used on non-ESR projects need to have project numbers to pay for the maintenance at a rate of $3/acre*.** Private individuals can use the Bureau's rangeland drills only if a signed agreement is arranged through the Natural Resources Conservation Service (NRCS). A maintenance fee of *$3/*acre seeded is charged for all drills used by state, other federal, or private entities when seeding is done on non BLM lands.

There have been a number of drills modified with a slow down (lower gear) ratio which slows the seed rate by 50 percent to facilitate the planting of native seed. There are some drills with the lower gear ratio and alfalfa seed box, and also some with the lower gear ration, alfalfa seed box and a fluffy seed box to hold trashy/fluffy native seed. The Vale shop also has carts to pull two or three drills. The Vale Drill Shop phone number is 541-473-6260.

PROCUREMENT FOR SERVICES AND SUPPLIES

A procurement strategy for obtaining services and supplies used for burned areas should be developed as early as possible in the ESR process. The "Availability of Funds" clause *must* be included in the solicitations issued prior to ESR plan approval; award of contracts cannot be made until ESR funding approval. The use of emergency procurement procedures may also be used to expedite the process, if justification is submitted to the contracting officer. Early requests for Labor Department current wage rates for pilots, tractor operators, fence contractors, etc., will also decrease the procurement time. All seed purchases must comply with the Federal Seed Act (7 USC sections 1551-1610) and Federal specifications JJJ-S-181.

State-wide or district-wide Requirements Contracts, or Basic Ordering Agreements, can be competed and awarded by BC-670 or OR-950 for requirements which exceed the small purchase limitation. If vendors commit to reasonable prices beyond the current year, options to extend the contract term for up to three years can be included in the solicitation and contract. This will provide long-term coverage if similar rehabilitation treatments are required in the same geographic area year after year.

Rehabilitation treatments can also be completed using Request for Quotations or Master Solicitations. Master solicitations work well because they save time and paper work. All these types of contracts, agreements, and solicitations also work well for emergency cultural clearance projects.

PROGRAM EVALUATION

Each state/district/field office is responsible for evaluating the effectiveness of its ESR Program. An evaluation of a state or district/field office ESR program should be done at a specified interval, preferably at least once every five years, or on rotating basis. If revisions in the NFRP are necessary, they will be submitted to the authorized officer for approval.

The entire ESR program for the BLM, or a particular state or district, will be evaluated for compliance with BLM policy through program evaluation or by a special evaluation (Manual Handbook H-1242-1), on a periodic basis.

FIRE REHABILITATION WORKGROUP

A standing Fire Rehabilitation Workgroup will be maintained after this handbook is approved. This workgroup representatives from the Washington Office, National Weed Team, Regional Seed Warehouse, Rehabilitation Equipment Maintenance Center in Vale, Oregon, and one representative from the states of California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, and Wyoming.

The purpose of the workgroup includes the following:

1. Provide internal support and technical assistance for rehabilitation issues or problems that arise in a State or on the national level.
2. Plan, develop, and carry out rehabilitation training on an as needed basis.

3. Share rehabilitation successes and failures among States to improve the cost effectiveness and success of rehabilitation projects.
4. Recommend changes in rehabilitation policy.
5. Coordinate with other agencies or the public on rehabilitation issues or concerns.

Exhibit 4-3 NATIONAL PARK SERVICE SUPPLEMENTAL ESR POLICY

Memorandum

To: Associate Director, Park Operations & Education
Associate Director, Natural Resource Stewardship & Science
Associate Director, Cultural Resource Stewardship & Partnerships
Regional Directors
Attn: Associate Regional Director Park Operations
Associate Regional Director, Natural Resource Stewardship & Science
Associate Regional Director, Cultural Resource Stewardship & Partnerships

From: Director

Subject: Implementation of Departmental Burned Area Rehabilitation Policy

On April 27, 1998, the Department of the Interior approved new policies for Burned Area Emergency Rehabilitation (BAER). The new policies resulted from a 1/ 2 year long effort by an interdepartmental team to revise BAER policies in support of current fire and resource management practices. These policies supersede and expand upon the interim policies contained in the draft Department of the Interior BAER Handbook, and establish consistent BAER guidelines among the NPS, BLM, BIA, FWS, and the USFS. The new policies are a major step forward because they allow parks to expand the use of BAER funding to mitigate a broad range of threats to natural and cultural resources critical to our mission and protection mandates. Since BAER projects can have a major impact on many aspects of park management, the successful implementation of these policies requires a coordinated interdisciplinary effort among natural and cultural resource managers, fire managers, and visitor services.

The Department's goal is to produce a joint BAER Handbook incorporating all of the new policies by the end of 1998. In the interim, we will immediately adopt and implement the policies outlined in Assistant Secretary Berry's attached memorandum. The following guidelines will be used to implement these policies.

- BAER is an extension of EMERGENCY actions directly related to managing an unplanned wildland fire. This no-year funding is available to allow parks to take immediate actions to prevent unacceptable resource degradation and to minimize threats to life and property resulting from a fire. It is not designed to fund all future actions related to the effects of a fire, including repair of fire damaged facilities not presenting immediate life/safety hazards, long term monitoring , research of fire effects on sensitive species and ecosystems, or long term actions to control or eradicate invasive non-native species. Rather, it should be viewed as short-term funding authority available to mitigate immediate threats until the park can secure additional funding to address long term needs.
- BAER plans and funding requests must be submitted to Regional Offices within five (5) calendar days following control of a wildland fire. BAER plans shall follow the standard format as outlined in the draft DOI BAER Handbook, and will identify the cost of initial damage assessments and mitigation actions, and estimate the scope of follow-up phases of work expected to result from initial assessments. Initial damage assessments should be as thorough as possible so that critical mitigation work can be completed before damaging rainfall events occur. Delayed assessments are inappropriate if a true emergency exists, and reduce the chances that mitigation treatments can be accomplished within the funding time constraints.
- Regional Offices shall review all park requests for BAER funding and approve/disapprove requests for up to $300,000 within seven (7) calendar days of receipt. Requests for more than $300,000 shall be forwarded to the National Fire Management Program Center for review. The Program Center shall approve/disapprove such requests within seven (7) calendar days of receipt. If supplemental requests increase the total cost of BAER actions on a fire to more than $300,000, the total request, including initial and supplemental phases, will be forwarded to the Program Center for review and approval/disapproval of all additional funds. Since planting trees with BAER funds is authorized as an experimental program at this time, those sections of BAER plans specifying tree planting must be approved by the Program Center, even though overall BAER plans can still be approved by regions if they fall under the $300,000 limit.

- The National Park Service will continue to utilize the least intrusive and least resource damaging methods to manage wildland fire, and the least intrusive BAER actions required to mitigate actual or potential damage caused by wildland fire. In natural areas, natural recovery of native plant species will continue to be the preferred action, except in rare circumstances. Seeding or planting non-native or even native species produces unnatural changes in successional patterns and vegetative communities and should be used only as last resort to prevent erosion damage or to combat invasion of non native species.
- It is not the intent of the BAER program to stop all erosion or eradicate all non-native species that may appear following fire. Erosion following wildland fire is an element of natural landscape change, and should not necessarily be viewed as a deleterious effect, especially in natural areas. For example, erosion should be reduced only when it threatens values to be protected, such as domestic water supply, or critical cultural and natural resources, or where it is unnaturally severe due to unnatural changes in fire regimes. The BAER program should focus only on mitigating significant damage, not on eliminating all erosion or eradicating all non-native species from a fire area.
- It is generally inappropriate to undertake BAER actions on wildland fires managed for resource benefits. When an Agency Administrator selects wildland fire use as an appropriate management strategy, it clearly implies that the fire can be managed to accomplish resource objectives. If fire behavior, effects and resource goals have been properly analyzed, the fire should generate no impacts that have to be mitigated. Those fires that are converted to suppression strategies will be treated as any other wildland fire suppression action, and BAER may be appropriate. On wildland fires that are managed under both suppression and resource benefit strategies, BAER may be appropriate in areas where the fire was being suppressed.
- Although Departmental policy permits fuels management project rehabilitation (See E-1, E-2, E-3), the NPS views this as inappropriate, except in rare circumstances. Prescribed fires managed within prescription are designed to achieve resource benefits, and should not be conducted if they will result in resource damage or threats of resource damage. Regional offices will carefully review and approve/disapprove all proposals for fuels management project submitted as part of fuels management project funding requests. Funding for such actions is derived from hazard fuels reduction operations funds, not burned area emergency rehabilitation. Prescribed fires that exceed prescription and are suppressed may be appropriate for BAER.

- Monitoring actions funded by BAER are restricted to assessments of whether treatments are effective and are maintained properly, and whether vegetative recovery in the absence of treatments is acceptable. Such monitoring will provide adaptive feedback into ongoing BAER projects and support program adjustments or supplemental actions to achieve protection goals. Long term monitoring of fire effects on sensitive species, cultural resources, or ecosystem function must be funded by research or resources management programs.
- Cultural resource damage assessments and treatments are limited to those sites documented before the wildfire occurred, and sites that are discovered incidentally while assessing and treating documented sites. BAER funds cannot be used to conduct systematic surveys of a burn area to document all sites that may have been exposed by the fire. Interim policies for cultural resource assessments and treatments developed during the Dome and Chapin #5 fires will be reviewed by the Fire Management Program Center, with assistance from the Natural Cultural Resource Advisory Group, and standards will be incorporated into the BAER Handbook.
- BAER Projects that are designed to mitigate significant impacts on cultural resources and which propose unusual or controversial treatments, or where the effectiveness of proposed treatments is unpredictable, are candidates to be reviewed by the Interagency National Cultural Resources Advisory Group. The decision to seek review and concurrence on such projects from this Group may be made by the Superintendent during the development of the original BAER plan, or during the regional or national approval process.
- For NPS BAER projects, all mitigation actions must be completed within two years from the date the original BAER plan was approved. Additional time may be approved if it can be demonstrated that existing treatments have failed, or that it was impossible to install critical treatments within normal time frames. However, justifications must demonstrate that emergency conditions still exist. Under normal conditions, vegetation will recover sufficiently within two years to prevent significant erosion, check the invasion of non-native species, and stabilize ecosystem function. Extensions beyond the two year limit must be approved through normal procedures, and cannot be granted beyond three years from the date of original BAER plan approval.
- The emergency AD hiring authority can be used to support immediate mobilization of BAER resources for up to six weeks following a fire. After this time, normal hiring procedures must be used.

- For each BAER_project, a park will prepare a final report that documents total funding approved and expended, treatment actions, and information on the effectiveness of treatments gathered from monitoring. The report will specify procedures for transition of any long term monitoring and continued maintenance of mitigation actions to normal park programs. The length and format of the report will be commensurate with the scope of the BAER project.

Baer98.doc 6/22/98

Exhibit 4-4 BUREAU OF INDIAN AFFAIRS SUPPLEMENTAL ESR POLICY

Supplemental Bureau of Indian Affairs ESR policy is found in 90 IAM, Standards for Operations Handbook and as follows:

The Bureau's policy conforms to Part 620 Chapter 3 of the Department of the Interior Departmental Manual (DM). The following are specific policy supplements to 620 DM 3.

A. ESR Planning Requirements:

(1) The Bureau requires an ESR plan for all burned areas needing Emergency Stabilization and/or Rehabilitation.

(2) For fires on Tribal trust lands the ESR plan Emergency Stabilization section will be submitted for approval within15 days following the control of the fire with approval/disapproval occurring within 10 days following submission to the approving office. The ESR plan Rehabilitation section will be developed and submitted within 3 months following control of the fire with approval/disapproval occurring within 1 month following submission to the approving office. If both sections are submitted for approval together, ESR plan submittal timeframes are the same as for the Emergency Stabilization section alone.

(3) **The Agency Superintendent and Regional Director will insure all ESR actions meet resource management objectives contained within an approved resource management plans.** The Agency Superintendent, Regional Director, Chief Branch of Fire Management will concur the ESR plan fits the technical definition for the use of Burned Area Emergency Rehabilitation funds. The Agency Superintendent may approve ESR plans up to $100,000. The Regional Director may approve ESR plans up to $250,000. Plans obligating more than $250,000 will be approved/disapproved by the Chief, Branch of Fire Management, NIFC. ***The Regional level approval will be raised to $500,000 when 90 IAM § 2.2 B. (3) is updated and approved.***

(4) Electronic and hard copies of all ESR Plans approved at the Agency, Regional and National offices (Parts A-1 and Appendix I and II), including the cost estimate, will be forwarded to the Chief, Branch of Fire Management, NIFC 10 days after final approval for information and reconciliation purposes.

(5) Regions will develop Regional ESR teams that will meet the Region's

needs. Regions will assist in the development of local teams as requested. Team makeup may consist of Regional, Agency, Tribal or other interagency partners. All Regional and local teams will follow the National ESR team qualifications and standards for operations. This includes a pre-season meeting, call out procedures, and a standard operating plan.

(6) The Region/Agency/Tribe may appeal a decision made by the approving official after the review and disapproval of an ESR specification in an ESR plan. The disputing party may appeal to the Interior Board of Indian Appeals in accordance with 43 CFR 4.310-4.340. Every effort to resolve the issue should be made at the local level before proceeding with a formal appeal.

(7) Commercial Forest Land means forest land that is producing or capable of producing crops of marketable forest products and is administratively available for intensive management and sustained production (25 CFR 163 – General Forest Regulations, §163.1).

B. Monitoring and Accountability Requirements:

(1) For every approved ESR plan, the initial Accomplishment Report (exhibit 4.4.2) will be completed at the close of that fiscal year. A Yearly Accomplishment Report will be completed at the end of second fiscal year. The Initial and Yearly Accomplishment Reports for the Bureau, use the same format.

(2) The Final Accomplishment Report for the project will be submitted within three years and 90 days after the control of the fire. The accomplishment report will follow the format on the BIA/NIFC web page to include sections addressing the assessments and specifications, budgeting, implementation, monitoring, maintenance, treatment effectiveness and a breakdown of costs, related to the specification sheets, for auditing purposes.

(3) Digital photographs with narratives of ESR activities shall be submitted with all Accomplishment Reports.

(4) All accomplishment reports will be submitted to the Chief, Branch of Fire Management and accompanied with a formal memorandum.

(5) Regions will submit consolidated carryover request by Region by September 15 of each fiscal year, to the Chief, Branch of Fire

Management.

(6) Regions will submit the status report on uncompleted ESR projects identified by Regions by September 15 of each fiscal year, to the Chief, Branch of Fire Management.

(7) In order for the Bureau to benefit from the ESR plan implementation lessons learned, a mechanism will be developed at the national level, on an interagency basis, for assessing, archiving, and broadly disseminating all information in the Accomplishment Reports.

C. Funding:

(1) The Bureau funds the ESR plan implementation through the Burned Area Emergency Rehabilitation (92610) account. For pre-approved activities identified in Program Standards Section 6.12 of the ESR Handbook, the host unit must submit a request to initiate funding and a Project Cost Accounting Subsystem (PCAS) number be established before these activities can proceed. The Bureau Request to Initial ESR Funding form (exhibit 4.4.1) should be immediately completed and sent to the Chief, Branch of Fire Management. No Emergency Rehabilitation funds can be obligated before an ESR Plan is approved. After the plan has been reviewed and approved, at the appropriate office, NIFC will increase or establish the PCAS project account when NIFC receives the request to initiate funding form or amendment. NIFC will allocate funding for ESR plans based on the fiscal year treatments are to be done and not the total amount of project when approved. Funds will not be distributed for the following year's treatments, until NIFC receives a satisfactorily Accomplishment Report. All requests must show the request for Emergency Stabilization (92B10) and Rehabilitation (92B20) dollars.

(2) Funding for Emergency Stabilization treatments is provided for no more than two full growing seasons following control of the fire. Base 8 personnel costs can be shifted or back-fill in accordance with standard procedures only for Emergency Stabilization planning and treatments.

(3) Funding for Rehabilitation treatments is provided for no more than three years following control of the fire. Shifting of base 8 personnel costs or back-fill for Rehabilitation planning and treatments is not authorized. Rehabilitation treatments, which look like they will need funding beyond the third year, need to be identified at the onset of the planning process so that other funding can be identified. The Burned Area Emergency

Rehabilitation (92610) funds will not be authorized for a project that is not likely to continue beyond the third year due to lack of funding.

(4) National, Regional, and/or Agency personnel providing support to other federal agencies for ESR projects, will charge their salary to the Emergency Stabilization (92B10) account in a support action method. NIFC will establish a PCAS number and allocate funding for National, Regional, and/or Agency personnel to charge their time.

(5) Monitoring and evaluation to determine effectiveness of treatments is funded up to three years following control of the fire. Funding for a third year of monitoring requires submission of the Yearly Accomplishment Report.

(6) Compact/638 Tribes – Funding is obtained by Tribes through agreements/contracts established by Regional offices or other federal agencies to reimburse Tribes for ESR costs on a project by project basis. Indirect costs for ESR projects are not authorized because ESR projects are non-recurring. However, reasonable administrative and overhead costs identified for a specific ESR project may be authorized. All agreements, memorandums of understandings, and 638 contracts should be modified to include the statement of work for ESR plans to ensure treatments are completed in accordance with the ESR plan, including reporting requirements.

D. Regional/ Local ESR Coordinator Standards

(1) Qualifications will include the following:

a. Wildland Fire Operation Specialist and/or ESR team member and/or interdisciplinary team member or resource management projects, and

b. The skills and knowledge provided in the S-301 Leadership and Organizational Development course, and

c. Bureau Policy Seminar (once a year case study session tied to the national ESR team meeting, or regional/local ESR team meeting, or Bureau Regional ESR coordinators meeting).

(2) Tasks – Following are tasks for the Regional/Local ESR Coordinators duties. Knowledge and skills are listed in exhibit 4.4.3

a. Provides oversight and direction for the Bureau Regional/Local ESR program.

i. Responds to requests for ESR teams in a timely fashion.

ii. Assists agencies in resolving ESR issues and the implementation of on-going projects.

iii. Coordinates all ESR projects

1. Participates in the selection of contractors as requested.

2. Insures the contract specifications are carried out.

3. Insures monitoring is appropriately done as per ESR plans.

iv. Provides for training of ESR team members.

v. Assists the Bureau National ESR coordinator in setting priorities, training, and dispatching of teams.

vi. Advises the line officer, Tribes and others of the status of on-going projects.

vii. Prepares and submits amendments to existing ESR plans through proper channels.

viii. Attends the closeout meeting between Regional/National ESR teams and the host unit.

b. Participates in the formulation of ESR plans to ensure compliance with policy and operational procedures.

i. Functions as an ESR team leader or member if so qualified.

ii. Functions as an ESR Implementation Leader if available.

iii. Evaluates proposed treatments on technical merit.

iv. Functions as a liaison for interagency projects.

v. Ensures NEPA compliance.

vi. Assures ESR treatments are ecologically sound and are supported by approved land management and/or fire management plans.

vii. Ensures preparation of ESR plans meets policy timeframes.

c. Assists and provides oversight to project (implementation) team leaders.

i. Ensures projects are administered and managed effectively and completely.

ii. Ensures that ESR treatment effectiveness is monitored, evaluated, and documented, with recommendations given.

iii. Trains ESR Implementation Leaders and contractors as to organizational and policy procedures.

d. Maintains a reconciliation reporting system.

i. Requests additional funding for amendments, upon review for compliance with policy and technical merit.

ii. Monitors all official expenditure reports to insure funds are properly accounted for and no cost overruns occur.

iii. Reconciles budget items within FFS.

iv. Insures all ESR activities are fully documented and reported in the approved format and within established timeframes.

E. Bureau Implementation and Operational Guidance:

(1) The interagency handbook, printed and E version; appropriate 90 IAM references, Standard for

Fire Operations and other documents posted on the BIA NIFC website provides operational guidance.

(2) Regions can provide supplemental guidelines.

Exhibit 4.4.1

US DEPARTMENT OF THE INTERIOR

BUREAU OF INDIAN AFFAIRS FIRE MANAGEMENT

BRANCH OF FIRE MANAGEMENT

NATIONAL INTERAGENCY FIRE CENTER

EMERGENCY STABILIZATION AND REHABILITATION (ESR)

REQUEST TO INITIATE ESR FUNDING

1. Date of Request	
2. Agency Name	
3. Agency Contact and Phone Number	
4. Fire Name	
5. Fire Number	

6. Project duration (years)	
7. Initial Request for funds Note: On the next page, list proposed treatments and estimated cost of each.	Stabilization (92B10) $
	Rehabilitation (92B20) $
8. Total estimated cost of ESR Project Note: On the next page, list proposed treatments and estimated cost of each.	Stabilization (92B10) $
	Rehabilitation (92B20) $
9. Reviewed/Approved By: (Agency Signature)	
10. Reviewed/Approved By: (Regional Office Signature)	
11. Reviewed/Approved By: (NIFC Signature)	
12. PCAS Number (Assigned by NIFC)	

NOTE: Agencies can approve ESR Projects up to $100,000. Regional Offices can approve ESR projects up to $250,000. ESR Projects above $250,000 are approved at the NIFC level. Only NIFC can assign PCAS numbers and open accounts.

Exhibit 4.4.2

Bureau of Indian Affairs

Burned Area Emergency Rehabilitation Accomplishment Report

Date Prepared:	***BAER Project Name:***	***Location (Region, Agency/Tribe):***

Prepared By:	***Project Implementation Leader:***

Line Item #:	***Description of Specification:***

% of Project Completed:	***Total Funds expended:***	Type of funding used: (EFR, Suppression, other):

Narrative

Describe what was done, how it was done, location of work, if the treatments were effective, further work to be done, etc.

Exhibit 4.4.3

REGIONAL/LOCAL ESR COORDINATOR POSITION

KNOWLEDGE AND SKILLS

Knowledge and Skills within tasks:

1. Provides oversight and direction for the Bureau Regional ESR program.

a. The Departmental policy regarding Emergency Stabilization/Rehabilitation, 620 DM 3.

b. Departmental ESR operational procedures and practices as stated in the ESR Handbook.

c. Landowner goals and objectives and how to implement these into natural resource programs.

d. Biological sciences and natural resource management.

e. Requirements imposed by legislation and regulations such as NEPA, NHPA, National Indian Forest Resources Management Act, Section 7 Compliance of Endangered Species Act, etc.

f. Effective interdisciplinary and interagency team operations processes.

g. Fire management policy procedures.

h. Effective liaison/coordination techniques.

i. Effective techniques in written and oral communications, public speaking, media presentations.

j. Leadership traits.

k. Team member roles and functions.

l. Feedback monitoring techniques to improve communications.

m. Performance evaluation techniques.

2. Participates in the formulation of ESR plans to ensure compliance with policy and operational procedures.

a. Professional knowledge of forestry and range principles, techniques and concepts sufficient to develop, implement and evaluate a wide range of natural resource management approaches and actions essential to the completion of the numerous projects identified in ESR plans.

b. Ability to evaluate technical reading material relevant to a variety of natural resource management disciplines.

c. Standard ESR procedures and practices.

d. Advanced knowledge of ecosystem types, individual plant species and ecological processes, including advanced fire effects.

e. Effective processes to determine the best response, approach or methods to be used in the planning and approval process.

f. Roles of team leader.

g. Leadership traits.

3. Supervises project (implementation) leaders.

a. Roles of the team leader/supervisor.

b. Performance evaluation techniques.

c. Effective training techniques.

4. Maintains a reconciliation and accomplishment reporting system.

a. File maintenance processes.

b. Techniques for organizing information.

c. Bureau ESR reporting requirements.

d. Knowledge of financial management and fiscal procedures, especially FFS, Agency regulations and policies in order to prepare reconcile expenditures of the program.

e. Technical documentation requirements.

f. Effective auditing procedures.

g. Mathematical computations.

h. Modem and communication software.

i. Proofreading.

j. PC computer operations sufficient to support the use of various software packages including word processing, database, and spreadsheets.

Exhibit 4-5 U.S. FISH AND WILDLIFE SERVICE SUPPLEMENTAL ESR POLICY

Supplemental U.S. Fish and Wildlife Service ESR policy is found in the Service Manual section 095 FW 3.9.

3.9 How should I deal with burned area emergency stabilization and rehabilitation? Our burned area emergency stabilization and rehabilitation (ESR) policy conforms with Part 620 Chapter 3 of the Department of the Interior Departmental Manual (DM). The following are our specific policy supplements to 620 DM 3.

A. ESR Planning Requirements

(1) We require a ESR Plan for all burned areas needing emergency stabilization and/or rehabilitation.

(2) For fires on our own lands, the ESR Plan emergency stabilization section will be submitted for approval within 30 days following control of the fire with approval/disapproval occurring within 14 days. The ESR Plan rehabilitation section will be developed within 6 months following control of the fire with approval/disapproval occurring within 2 months following control of the fire. If both sections are submitted for approval together, ESR Plan submittal time frames are the same as for the emergency stabilization section alone.

(3) The refuge manager and Regional Director will approve all ESR Plans as meeting resource management objectives. The Regional Fire Management Coordinator will concur that the ESR Plan fits the technical definition for use of Emergency Rehabilitation funds. ESR Plans obligating more than $500,000 of Emergency Rehabilitation funds (emergency stabilization and rehabilitation actions combined) will be reviewed and approved/disapproved at our Washington Office by the Chief of the National Wildlife Refuge System.

(4) Electronic copies of all approved ESR Plans (Parts A-I and Appendix I and II), including the cost estimate, will be forwarded to

our Service Fire Management Coordinator in Boise, Idaho, 10 days after final approval for budgeting/tracking purposes.

B. Monitoring and Accountability Requirements

For every approved ESR Plan, we will complete an initial Accomplishment Report after 2 years following control of the fire and a final Accomplishment Report 4 after years following control of the fire. The Accomplishment Report will include sections addressing planning, budgeting, implementation, monitoring, maintenance, treatment effectiveness, and provides a breakdown of costs for individual treatments for auditing purposes. In order for us to benefit from the ESR Plan implementation lessons learned, we will develop a mechanism for assessing, archiving, and broadly disseminating all information in the Accomplishment Reports.

C. Funding

(1) We fund ESR Plan implementation through the Emergency Rehabilitation subactivity. No Emergency Rehabilitation funds can be obligated before a ESR Plan is approved - exceptions include ESR Plan development and standard emergency safety and site stabilization treatments (see the Burned Area Emergency Stabilization and Rehabilitation chapter in the Fish and Wildlife Service Fire Management Handbook for specific treatment exceptions and limitations).

(2) Funding for emergency stabilization treatments is provided for no more than two full growing seasons following control of the fire. We can shift base 8 personnel costs or back-fill in accordance with standard procedures only for emergency stabilization planning and treatments.

(3) Funding for rehabilitation treatments is provided for no more than three years following control of the fire. We cannot shift base 8 personnel costs or back-fill for rehabilitation planning and treatments.

(4) Monitoring and evaluation to determine the effectiveness of treatments is funded for up to three years following control of the

fire. Funding for a third year of effectiveness monitoring requires submission of the initial Accomplishment Report.

D. Service Implementation and Operational Guidance

The Burned Area Emergency Stabilization and Rehabilitation chapter in our Fire Management Handbook provides additional implementation and operational ESR guidance (e.g., ESR Plan template, Accomplishment Report format, etc.). Additional guidance on the appropriate use of the Emergency Rehabilitation fund is in the Financial Management section (1.6.2 Subactivity - Emergency Rehabilitation) of our Fire Management Handbook.

Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook

This page was last modified 04/09/02

5 PROGRAM ADMINISTRATION

5.1 ROLES AND RESPONSIBILITIES

Agency Administrator: Direct and coordinate all management operations of an administration unit. This includes developing and implementing the fire suppression activity damage and burned area emergency stabilization and rehabilitation.

ESR Program Coordinator: The Burned Area Emergency Stabilization and Rehabilitation (ESR) program coordinators coordinate program issues, implementation, training, oversight, sharing of information, and evaluation. Coordinators must involve other program areas such as wildland fire management, budget, cultural and natural resources etc., as necessary and appropriate, to ensure an integrated interagency program. ESR coordinators meet on an as needed basis to discuss and resolve issues which may arise concerning: program philosophy, funding, allowable treatments, personnel/equipment, training, documentation, etc.

Monitoring is necessary to assess if proposed treatments were properly implemented, if actual treatments were effective, and if additional treatments or maintenance are needed to make the emergency rehabilitation project successful. ESR coordinators share information on treatments approved, treatment effectiveness and monitoring, etc. among the agencies as well as other federal, state, and local land management agencies that may have an interest.

On an as needed basis, ESR coordinators should discuss the results of the fire season's burned area emergency rehabilitation treatments and the possibility of any program changes to address problems that may have arisen. A continual program evaluation keeps the program ready to meet the differing agency needs.

- National ESR Program Coordinators are designated by each agency and function as an interagency group and are also responsible for:
  - Supporting, managing, and conducting overall performance review and evaluation for national ESR incident teams. Several standing interagency ESR Teams currently exist. In order for these teams to remain operationally functional it is necessary that each agency assist in the development and/or support of these teams.
  - Developing an Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook .
  - Developing and incorporating within the Handbook a common cost-effectiveness analysis for evaluating proposed actions, and a standard project accomplishment report format.
  - Developing a mechanism for achieving and broadly disseminating the results of monitoring treatment effectiveness.

- Developing information transfer, technology development, and research priorities.

ESR Team: Prepares a Burned Area Emergency Stabilization and Rehabilitation Plan for the agency administrator. Department of the Interior Burned Area Emergency Response teams are established to quickly (within the 14 day incident assignment period) address emergency stabilization issues on multi-agency fires and are responsible for preparing only the emergency stabilization section of the ESR Plan.

Incident Management Team: Plan and implement fire suppression activity damage rehabilitation for the agency administrator.

5.2 ESR PROGRAM FUNDING

Funding for ESR activities is provided by the Wildland Fire Operations Activity within the Wildland Fire Management Appropriation.

For the DOI bureaus, ESR burned area assessments, plan development, and urgent and non-urgent ESR treatment implementation are funded from the Burned Area Rehabilitation subactivity. ESR plan development includes salary for all support personnel (technical specialists and resource advisors) and equipment required to complete the plan.

For the USFS, ESR burned area assessments, plan development, and urgent treatment implementation are funded from the Suppression Operations subactivity, but non-urgent types of rehabilitation and long-term restoration work beyond 3 years are funded from the Wildland Fire Management Appropriation, Rehabilitation and Restoration subactivity (i.e., National Fire Plan).

For both Departments, ESR treatments and monitoring are funded for not more than 3 years from the control date of the wildland fire. Rehabilitation of fire suppression activity damage is not an ESR activity and is charged to the Suppression Operations subactivity by both Departments.

Funding subactivities Under Wildland Fire Management Appropriations:

Phase	Fire Suppression Activity Damage	Initial Burned Area Assessment and Planning	Urgent Stabilization Treatments	Non-urgent Rehabilitation Treatments	Treatment Effectiveness Monitoring and Reporting	Restoration
USFS	Suppression Operations (SU??)	Suppression Operations (BAER)	Suppression Operations (BAER) (one year or until end of first full growing season after control of the fire the fire)	Rehabilitation and Restoration or other program funding	Suppression Operations (BAER) (up to 3 years after control of the fire)	Rehabilitation and Restoration or other benefiting program funds

DOI	Suppression Operations	Burned Area Rehabilitation	Burned Area Rehabilitation (Emergency Stabilization) (not to exceed 2 full growing seasons after control of the fire)	Burned Area Rehabilitation (Rehabilitation) (not to exceed 3 years after control of the fire)	Burned Area Rehabilitation (Rehabilitation) (not to exceed 3 years after control of the fire)	Benefiting program funds
Examples	Cat lines, water bars	Burned severity mapping	Mulching	Shrub planting	Determine of grass seeding was successful	Major facility repair or replacement

Funding for ESR plan development and implementation will be provided by the Burned Area Rehabilitation account. It is appropriate to use fire overhead and suppression forces, which are tied to the incident primarily for suppression purposes (i.e., mop up, line patrol, short-term rehabilitation), to help with long-term rehabilitation treatments (seeding, building check dams, etc). This is a most effective manner of utilizing these standby resources. Resources, such as crews, held to the incident when not needed for continued fire threat, can only be funded from the Burned Area Rehabilitation account.

ESR planning team activities are an integral part of wildland fire incidents. They are governed and supported by the same wildland fire incident mobilization, resource availability, training, qualifications, and incident business management procedures as other aspects of the incident.

Agency administrators and fire managers should understand the logic behind the timely preparation of ESR Plans. Developing ESR plans within 10 working days (multiagency fires) of control of the fire is important for two reasons (extensions can be granted by agency ESR Coordinators).

- Emergency stabilization actions need to be completed before next damaging storms and/or spring runoff (to prevent loss of life, property or cultural resources).
- It allows for the cost/management effective implementation of both short and long-term rehabilitation efforts by suppression resources attached to the incident.

Program activities (planning meetings, training, etc.) which require involvement by ESR personnel are budgeted and funded through individual agency operating funds. ESR program activities not associated with any individual wildland fire include: preseason standing ESR Team preparation; equipment support for the teams; and training for team members and others for ESR.

Appropriate use of Burned Area Rehabilitation funds include:

- Emergency Stabilization
    - Planning post-fire emergency stabilization actions and ESR Plan development.
    - Replacing or repairing facilities essential to public health and safety and replacing or constructing fences or other structures necessary to protect emergency stabilization projects or to prevent further degradation of natural and cultural resources during the project period.

- Physical structures and devices to slow the movement of soil and water downslope (e.g., check dams, culverts, silt fences, log erosion barriers and straw wattles, erosion cloth and soil netting, etc.). These treatments are primarily temporary measures that do not generally require maintenance or are removed after objectives have been met.
- Conducting burned area assessments for threatened, endangered, and other special status species to identify mitigation requirements. Damage assessments and treatments are limited to species that are known to be detrimentally impacted by wildland fire, or those for which there is reasonable expectation of detrimental impacts. Also, there must be reasonable expectation that the detrimental impacts can be mitigated.
- Seeding or planting of shrubs, forbs, and grasses to prevent critical habitat for federal listed threatened or endangered species, or other special status species, from being permanently impaired, or to prevent erosion or mass wasting.
- Seeding or planting of shrubs, forbs, and grasses to facilitate the natural succession of vegetative communities which would likely be subject to immediate and aggressive invasion of non-native invasive species after the fire.
- Seeding or planting trees, only if such actions have been demonstrated to be cost-effective in meeting project objectives of stabilizing watersheds to prevent downstream damage on and off site.
- Use of chemical, biological or mechanical treatments necessary to minimize the establishment or re-establishment of non-native invasive species within the perimeter of the burned area.
- Monitoring and patrolling necessary for public safety and natural and cultural resource protection, if such activities cannot be accomplished within existing capabilities and by shifting priorities.
- Covering, camouflaging, cleaning, burying, or reinforcing historic properties to prevent erosion, weathering, movement, and looting.
- Burned area assessments to assess damage to documented historic properties or those discovered in the course of treating known properties.
- Base 8 salary of non-fire funded agency employees engaged in emergency stabilization planning and treatment implementation.
- Overtime for agency employees engaged in emergency stabilization planning and treatment implementation.
- Legal mandated clearances prior to treatment initiation.

- Rehabilitation

  - Planning post-fire rehabilitation actions and ESR Plan development.
  - Repair or improve lands unlikely to recover naturally from wildland fire damage by emulating historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with approved land management plans.
  - Restore or establish a healthy, stable ecosystem even if the ecosystem cannot fully emulate historical or pre-fire conditions.

- Tree planting is limited to:
  - Facilitating the succession and stabilization of forest ecosystems.
  - Re-establishing habitat for federally listed threatened or endangered species, or other special status species.
  - Reintroducing or reestablishing native tree species and seed sources lost in a stand replacement fire.
  - Regenerating Indian trust commercial timberland identified in an approved Forest Management Plan, and that a certified silviculturalist has determined will not naturally regenerate for more than 10 years after the fire.
- Repair or replace fire damage to minor operating facilities (e.g., campgrounds, interpretive signs an exhibits, shade shelters, grazing fences, wildlife guzzlers, etc).
- Overtime for agency employees engaged in rehabilitation planning and treatment implementation. .

Prohibited uses of Burned Area Rehabilitation funds include:

- Emergency stabilization or rehabilitation treatments not in an approved ESR Plan.
- The expenditure of funds for emergency stabilization treatments carried out beyond the second growing season following control of the fire.
- The expenditure of funds for rehabilitation treatments carried out beyond three years following control of the fire.
- Treatment effectiveness monitoring after two years following control of the fire without submittal of an initial Accomplishment Report.
- Any treatment effectiveness monitoring after three years following control of the fire.
- The planning or replacement of major infrastructure, such as visitor centers, residential structures, administration offices, work centers and similar facilities. Rehabilitation does not include the construction of new facilities that did not exist before the fire, except for temporary and minor facilities necessary to implement burned area emergency stabilization and rehabilitation efforts.
- Damages caused by prescribed fires or wildland fire used to achieve land management objectives.
- Monitoring to determine the short- or long-term response of a resource to the fire (i.e., fire effects monitoring).
- Purchase of accountable/capitilized equipment without documentation that purchasing the equipment is more cost effective than renting equipment and is in the best interest of the government.
- Base 8 salary of fire funded agency employees engaged in emergency stabilization actions.
- Base 8 salary of agency employees engaged in rehabilitation planning and treatment actions.
- Systematic inventories of all know historic properties within the burned area.
- General administrative historic property services (e.g., NHPA compliance reports).
- Treating fuels within the burned area to accomplish fuel management objectives.

5.3 ESR PROGRAM ORGANIZATION

Agency ESR program organization (Exhibit 5-1) differs according to individual agency history and culture. Each agency has a national coordinator and as individual at the regional or state level responsible for ESR program coordination.

5.4 ESR PLANNING

5.4.1 Programmatic Planning

Each emergency stabilization and rehabilitation project requires the preparation, submittal, and approval of a ESR Plan or plan supplement where programmatic plans are already in place for the project. A programmatic fire rehabilitation plan including National Environmental Policy Act (NEPA) and historic property compliance (Exhibit 5-2), is recommended on a landscape scale prior to wildland fire occurrence when historic fire occurrence is significant and post-fire rehabilitation is anticipated. It should be prepared on an eco-region/watershed basis at the appropriate unit level by an interdisciplinary team with public input. The decision to prepare a programmatic plan is based on the size and diversity of the ecosystems involved, fire history (wildland fire occurrence and size), resource values, and resource management objectives and decisions in land use plans. Agency administrators may require that programmatic plans be prepared for all or part of the public lands within their area of jurisdiction. Programmatic plans must comply with the same policies as ESR Plans.

The programmatic plan contains information about those areas where wildland fires are most likely to occur and the, location and type of rehabilitation treatments needed. The NEPA and National Historic Preservation Act (NHPA) processes are used to assess the impacts of those rehabilitation practices or of taking no action. A map showing the previous 10 year wildland fire occurrence by size of burn is prepared to assist in determining if a Programmatic Fire Rehabilitation Plan (see BLM H1742 for example) is warranted for an administrative unit. A review of fire management plans and wildland fire reports for the area under study may also assist in the decision process. The programmatic plan reduces the repetitive preparation of individual ESR Plans for wildland fires, thereby reducing time and costs, especially where wildland fire occurrence is high and the size of wildland fires is large. Programmatic plan supplements that describe the site-specific ESR actions to be taken, including resource compliance and public input, are developed after a specific fire to address the specific issues and needs of that fire.

5.4.2 ESR Plan

The goal of the ESR Plan is to protect public safety and stabilize and prevent further degradation of natural and cultural resources, and to rehabilitate the stability, productivity, diversity, and ecological integrity of lands after a wildland fire as described in approved land management plans. The ESR Plan is tiered to agency and field unit land and resource management plans. Development of ESR Plan objectives is guided by resource management objectives, general management practices, and constraints identified in approved agency and field unit land and resource management plans.

Because of the emergency nature of the fire event of the emergency stabilization section of the ESR Plan must be developed expeditiously and is frequently developed by a local unit or designated burned area ESR team. The normal planning approach is the use of a local ESR team to evaluate wildland fire damages and prepare the appropriate ESR Plan.

An established Burned Area Emergency Stabilization and Rehabilitation Team of interdisciplinary specialists organized prior to the wildland fire (members may be outside the local office area) can be brought in to assess fire damages and prepare primarily the emergency stabilization section of the ESR Plan. This may occur where preparation of an ESR Plan is beyond the capability of the local staff, a wildland fire that includes multiple agency ownerships, or on large complex wildland fires. This outside Burned Area Emergency Stabilization and Rehabilitation Team is requested as any according

to standard fire resource need with resource order procedures.

The rehabilitation section of the ESR Plan is not considered an emergency, and is developed like other field unit land management plans. Depending on the complexity of the rehabilitation, the rehabilitation section of the ESR Plan may require an interdisciplinary team approach. However, existing approved field unit management plans should have much of the information needed for development of the rehabilitation section of the ESR Plan.

Both sections of the plan must comply with the Departmental and agency NEPA process (Exhibit 5-2). A Finding of No Significant Impact (FONSI) or Decision Record is required for all ESR Plans and programmatic plan suppliments.

The Agency administrator is responsible for preparing all ESR Plans. Plan approval procedures are established by the individual agencies.

An approved ESR Plan is required before any Burned Area Rehabilitation funds can be obligated for emergency stabilization or rehabilitation treatments. There are emergency instances where emergency stabilization actions may need to begin while developing the ESR Plan and before ESR Plan approval. Emergency stabilization planning and a limited number of standard hillslope, channel, road, and public safety treatments are pre-approved for all fires where there is the potential of a significant storm event before ESR Plan completion. All pre-approved treatment (see Program Standards chapter) specifications implements prior to plan approval are included and documented in the final ESR Plan. Funds for emergency stabilization or rehabilitation activities cannot be reprogrammed outside those identified in the ESR Plan.

At a minimum the development of ESR Plan containing a Burned Area Assessment Report is necessary in order to amend the ESR Plan after the emergency stabilization or rehabilitation planning deadlines pass if additional information reveals that actions are needed.

5.4.3 Transition to Resource Management Activities

Many ESR Plans identify emergency stabilization and rehabilitation treatments that need to continue or be maintained beyond the 3 year Burned Area Rehabilitation funding limitation. Budgeting provisions need to begin as soon as possible to assure that other funding soures are available to continue these planned activities after Burned Area Rehabilitation funding is terminated.

5.5 ESR PROGRAM ACCOUNTABILITY

Accountability for the ESR program element lies with each agency's agency administrator. Individual agencies establish accountability responsibilities for:

- ESR Plan review and approve/disapprove (resource and funding appropriateness)
- Financial accountability
- ESR Plan implementation
- ESR Plan implementation review and evaluation
- ESR Program review and evaluation

Any approved or pre-approved Burned Area Rehabilitation expenditure can be placed through the fire command organization. An alternative is to switch the Burned Area Rehabilitation function to the

agency finance unit.

Accomplishments of each treatment specification is performance and fiscally evaluated, tracked and reported. Significant deviations from treatment specifications or costs as prescribed in the approved ESR Plan requires a ESR Plan amendment. ESR Plan amendments do not affect implementation deadlines (e.g., 2 growing seasons or 3 years following control of the fire). Fiscal obligations and planning accomplishments are tracked and documented via annual Accomplishment Report each fiscal year throughout the Burned Area Rehabilitation funding window and culminate in a project Final Accomplishment Report. Any Burned Area Rehabilitation funds not expended during the first 2 growing seasons/3 years following control of the fire cannot be used for other purposes.

Fire suppression activity damage rehabilitation treatments are planned, implemented, and funded through the fire suppression account and implemented by the Incident Commander assigned per his/her delegation of authority. The approved ESR Plan serves as an obligation document that can be implemented up to the dollar estimates of each specification. As the ESR Plan is amended, funding allocations are adjusted. This emphasizes the need to keep financial officers informed of all ESR Plan amendments.

Frequently, emergency stabilization or rehabilitation initiate a management commitment that is significantly longer than the three year commitment of Burned Area Rehabilitation funding (e.g., structural emergency stabilization treatments, biotic community stabilization, nonnative invasive species control, reforestation, appropriate livestock and animal management, etc.). The ESR Plan must identify that other program areas are able to accommodate these added long-term management commitments and actions beyond the 2 full growing seasons/3 year ESR time period. Unless long-term fire rehabilitation activities are fully integrated into the other program areas, the ultimate success of the activity and the benefits to the agency and public is seriously jeopardized. This issue may be a consideration of the approval authority in either approving or denying the specification.

To sustain accountability for funding provided, accomplishment reports are submitted by the affected agency. The accomplishment report covers: treatments applied, dollars spent, treatment effectiveness, monitoring results, and an assessment, in narrative form, of each aspect of the ESR project. The report will be archived, and made readily available for use in program planning, review, and oversight, as necessary. This report is a mandatory prerequisite for treatment effectiveness monitoring funding beyond 2 years and account closure.

5.6 CONTRACTS AND AGREEMENTS

Either the incident or agency contracting personnel will provide the procurement services for ESR personnel. Orders for these services should be placed through the fire incident management team's finance section or agency procurement procedures. Procurement services may include, but are not limited to the following:

- Heavy equipment contracts (dozers, excavators, chippers, and their operators, etc.)
- Stabilization material (weed/seed-free straw, seed, soil netting, etc.)
- Vendor selection (closest available, qualified based on specification).

There must be an agreement before any service is performed. Without an agreement, there is no authority to obligate funds for services. If an agreement cannot be executed prior to the start of work, at a minimum there must be a letter of intent signed by the parties involved. Specifications for funding responsibilities should include billing procedures and schedules for payment. Any agreement that

extends beyond one fiscal year must be made subject to the availability of funds. Any transfer of Federal property must be in accordance with Federal property management regulations. All agreements must undergo periodic joint review and, as appropriate, revision.

Mutual aid agreements are considered two-way agreements whereby each party contributes equally.

Contracts can be used where they are the most cost-effective means for providing post-fire rehabilitation treatments commensurate with established standards. A contract, however, does not absolve an agency administrator of the responsibility for managing a rehabilitation program. The agency's approved ESR Plan must define the role of the contractor in the overall program.

Contracts are developed and administered in accordance with Federal Acquisition Regulations. Either the incident or agency contracting personnel will provide the procurement services for the ESR treatments. Orders for these services should be placed through the fire incident management team's finance section. Agency rental contracts are appropriate for Burned Area Rehabilitation funding. Capitalized equipment cannot be purchased with emergency funds unless it can be documented that purchasing equipment is more cost effective than renting equipment and is in the best interest of the government. See (Exhibit 5-3) for assistance in deciding which instrument to use for the procurement of services and equipment.

National Fire Plan "Contracting and Assistance" is available on an interagency basis.

Contracts and agreements obligating Burned Area Rehabilitation subactivity funds cannot allow those funds to be expended beyond 3 years following the control of the fire.

5.7 COMMUNICATIONS PLAN

The purpose of the communications plan is to provide a strategic direction for communication efforts for staff to follow in implementing the communication efforts for staff to follow in implementing the communication elements of ESR, and to inform field levels of the national scope, so they may structure their communication efforts to compliment the national direction. The communications plan details how to use the fire event as an opportunity from a strategic communication perspective. The goals of the communication plan are to increase understanding of ESR among identified audiences, and to increase the level of involvement of identified audiences in implementing ESR.

5.8 INFORMATION MANAGEMENT

Good information and data storage and retrieval processes are essential to the production of valid ESR assessments, plans and reports. Information management concerns the use of technology to acquire information (i.e., global positioning system), storage and sharing information (i.e., web sites and networks), production of quality maps and decision-making products (i.e., geographical information systems), and use of electronic forms for requesting funding approval and reporting financial status and accomplishments.

5.9 COOPERATION ON PRIVATE LANDS

Large fires often cover both Federal and private lands. The National Resources Conservation Service (NRCS) administers a program specifically designed to help landowners respond to a range of natural disasters (e.g., fire, hurricanes, flood, earthquakes, etc.). The is the Emergency Watershed

Protection (EWP) program authorized by PL 81-516 and PL 95-334. Each year funds are allotted to the states for this purpose. When a disaster occurs, private landowners may contact their NRCS State Conservationists and request assistance. In practice, small parcels of non-Federal lands may be included in the burned area assessment, or NRCS personnel included on the assessment team. When treatments are recommended, implementation on the non-Federal lands can be funded by the EWP program.

Exhibit 5-1 AGENCY ESR PROGRAM ORGANIZATION

Names, addresses, telephone numbers, etc. can be found in the National Interagency Mobilization Guide (NFES 2092).

USDA FOREST SERVICE

BUREAU OF LAND MANAGEMENT

NATIONAL PARK SERVICE

BUREAU OF INDIAN AFFAIRS

U.S. FISH AND WILDLIFE SERVICE

Exhibit 5-2 ENVIRONMENTAL COMPLIANCE CONSIDERATIONS AND DOCUMENTATION

All Burned Area Emergency Stabilization and Rehabilitation (ESR) activities are conducted in a manner that is compatible with long-term goals and approved land use plans (e.g., goals under the Government Performance and Results Act, forest plans, general management plans, resource management plans, conservation strategies, species recovery plans), in compliance with applicable law, agreement and policy, including the National Environmental Policy Act (NEPA); Endangered Species Act; Clean Water Act; Comprehensive Environmental Response, Compensation, and Liability Act; and the National Historic Preservation Act.

Environmental compliance requirements for a ESR Plan can very greatly depending on the size and complexity of the anticipated emergency stabilization and rehabilitation activities, affected resource and environmental context, and agency compliance procedures. The following process was developed for large complex emergency stabilization and rehabilitation activities and can be modified to fit the needs of smaller less complex activities and specific agency procedures. Coordination with agency NEPA Coordinators is recommended.

This is general compliance process is as follows:

- Establishment of Key Contacts: Establish key contacts with individuals responsible for environmental compliance at the affect land management unit. This may include telephone calls or direct communications with the local and/or regional/state NEPA coordinator, and if necessary Council of Environmental Quality (CEQ) dependent upon the complexity of the anticipated ESR activities. The level of involvement is determined starting at the local level and working up through the agencies chain of command. In the case of multi-jurisdictional incidents contacts may need to proceed concurrently through multiple agencies.

  Initial contacts are be made early and generally include an introduction, explanation of ESR Plan development NEPA compliance issues, information regarding the resources at risk and potential emergency stabilization and rehabilitation actions that are under consideration, and the agency administrator(s) responsible for the activities. An explanation of the interdisciplinary team process of plan development in consultation with the local agency

staff, the need and means for providing on-going consultation, and requirements for final review and approval is useful. For multi-agency fires, meetings or conferences call may need to be arranged to provide for the necessary interagency coordination.

- Review Agency Specific NEPA and ESR Policy and Guidance: Become familiar with the agency specific post-fire policies and guidance on NEPA and ESR implementation. Any need for additional information on agency specific NEPA or ESR guidance should be discussed with an agency contact early (upon the first telephone call or meeting).

- Review Applicable Legislation and Management Plans: The ESR Plan must be implemented in accordance with agency and unit specific legislation including organic acts, enabling legislation, wilderness designation, etc. All applicable legislation should be reviewed to assist in determining its relevance to and actions proposed in ESR Plan.

  All proposed ESR actions within plans must be compatable with approved land management plans for the effected area. Review all applicable lands management plans for the area effected by the fire and advise the ESR team leader and agency administrator as to the relative consistency between existing approved plans and proposed ESR actions. The outcome of this compatibility determination should lead to a recommendation and final determination by the agency administrator on the level of environmental compliance documentation required to support the ESR Plan.

- Obtain Incident Background Information (from Incident Commander (IC) and/or Agency Sources): Initiate contact with the Incident Command, Plans and or agency staff to obtain a complete set of shift plans, maps indicating fire progression, suppression impact maps as part of the administrative record. Using these maps develop a detailed fire history and summary of fire suppression actions for inclusion in the ESR plan executive summary. This information may also be used in development of the environmental compliance documentation.

- Assist in Development of Public Outreach Strategy: Provide environmental compliance information to the Team Leader, IC, and/or agency assigned Public Information Officer in development of a public outreach strategy related to ESR Plan development. This may include news releases, meeting notices, etc.

- Facilitate Identification of Potential Specifications: Through consultation with other ESR team specialists and team meetings assist in compiling a list of potential specifications for inclusion in the ESR Plan. This list should be refined throughout the incident with new specifications added and others being dropped based on further field investigations, analysis, consultations, and team specialists professional judgment. During early assessment of potential specifications identify treatment specification specific environmental compliance requirements including appropriate consultations.

- Assist in Development, Review, and Submission of Specifications for Shift Plans: For incidents were the IC has requested the ESR team assist with fire suppression activity damage rehabilitation, assist the Incident Command Team (ICT) Operations Specialist in the development of specifications to be included in shift plans.

- Review Specifications for Compliance Requirements and Applicable Funding Sources: Review all proposed treatment specifications to determine their compatibility with approved land management plans, additional environmental compliance documentation requirements, and to review assignment of appropriate funding sources. Final determinations on the appropriate funding source (i.e., Suppression, Burned Area Rehabilitation, agency base, etc.) may contribute to the determination whether environmental compliance can be deferred. For example less urgent rehabilitation activities may be referred to agency staff for more detailed planning, public involvement, and environmental compliance.

- Review Assessments for Compliance Requirements: Review all resource assessments to ensure that all specification related management actions have been considered in the NEPA analysis. Assessments are reviewed to ensure that specifications considered but rejected are documented and that the rational for include or rejecting each treatment considered is clearly described.

See agency specific NEPA guidance.

- FWS NEPA Reference Handbook

Exhibit 5-3 GUIDE TO INSTRUMENT SELECTION

PURPOSE	FEDERAL ROLE	FEDERAL INVOLVEMENT DURING PERFORMANCE	INSTRUMENT
Acquisition of goods or services for Federal use	Purchaser-user	No substantial involvement except in special circumstances provided in the contract.	Procurement Contact signed by Contracting Officer
Acquisition of goods or services for Cooperator	Purchaser-donor	Responsible for assuring performance	Procurement Contract signed by Contracting Officer
Assistance, monetary, or non-monetary to support or stimulate a public objective	Financial supporter and participant partner	Substantial involvement, as defined by OMB guidance	Cooperative Agreement signed by Contracting Officer
Assistance, monetary to support or stimulate a public objective	Financial supporter-patron	No substantial involvement, as defined by OMB Guidance	Grant
Mutual assistance relationships with non-Federal entities or individuals (non-monetary)	Partner	Substantial involvement as required by memorandum	Memorandum of Understanding signed by appropriate official
Receipt of funds by a federal agency from non-Federal entity	Recipient	Substantial involvement as required by memorandum	Memorandum of Agreement signed by appropriate official

Acquisition from or cooperation with another Federal agency	Partner or purchaser-user	Substantial involvement as required by agreement	Interagency Agreement signed by Contracting Officer or appropriate official

Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook

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6 PROGRAM STANDARDS

Burned area emergency stabilization and rehabilitation (ESR) actions are intended to protect public safety, stabilize and minimize unacceptable change to biotic communities, improve ecosystem structure and function according to approved field unit management plans, and repair or replace minor facilities damaged or destroyed by a wildland fire. Burned Area Rehabilitation subactivity funds can only be used for treatments on agency lands within the perimeter of the fire or impact area downstream from the burned area. The use of Burned Area Rehabilitation funding is further limited based on treatment effectiveness and to improve economic efficiencies. Additional implementation and treatment guidance/standards are provided:

Implementation Standards:

- Cadastral Survey
- Equipment
- ESR Personnel Safety
- Evaluation of Experimental or New Technology
- Fire Use
- Fuels Management
- Legal Mandate Compliances
- Public Coordination
- Recovering ESR Costs of Human Cause Wildland Fires
- Timeliness
- Treatment Failures
- Fuels Management
- Wilderness Study Areas / Designated Wilderness
- Wildland Fire Suppression Activity Damage Rehabilitation
- Wildlife

Treatment Standards:

- Cultural Resources
- Ecological Stabilization
  - Forest Rehabilitation
  - Integrated Pest Management
  - Non-native Invasive Plant Control
  - Non-native Animal Use
  - Revegetation
- Field Unit Infrastructure
  - Early Warning Flood/Evacuation System
  - Facility Construction/Structural Stabilization and Clean-up
  - Minor Facilities
  - Major Facilities

6.1 AGENCY POLICY AND STANDARDS

All treatments (protective fences, culverts, water bars, etc.) must comply with applicable agency policy and standards. Treatments are designed to be cost-effective and to meet rehabilitation objectives. Rehabilitation treatments which could cause unacceptable soil disturbance require input and recommendations from soil specialists on project design and mitigation.

6.2 IMPLEMENTATION STANDARDS

6.2.1 Cadastral Survey

Project areas have cadastral survey work done with Burned Area Rehabilitation funds only where land ownership adjacent to proposed ESR treatments is in question and not to answer long-standing, large-scale ownership questions. Section and quarter corners are located and flagged for avoidance prior to any surface disturbing activity that could result in damage to or destruction of the corner.

6.2.2 Equipment

Capitalized equipment cannot be purchased with Emergency Rehabilitation Funds unless it can be documented that purchasing equipment is more cost effective than renting equipment and is in the best interest of the government. Capitalized or non-capitalized equipment is not purchased with Burned Area Rehabilitation funds without review and written approval by the appropriate agency representative.

6.2.3 ESR Personnel Safety

Public and firefighter safety is the first priority. All ESR planning and implementation actions conform with Occupational Safety and Health Administration , National Wildfire Coordinating Group, and agency safety standards.

6.2.4 Evaluation of Experimental or New Technology

The evaluation of new technology (equipment, plant materials, etc.) on a limited scale is appropriately funded with Burned Area Rehabilitation funding if the potential to improve cost efficiency or success of ESR treatments is likely. The evaluation of experimental technology may include monitoring studies or contracting of studies with research agencies or universities for more complex technologies. Research projects are best funded through the Joint Fire Science Program. Caution must be used in the use of experimental technology to maintain the appropriate size and scope of treatment relative to the overall project. If the monitoring or evaluation of experimental technology involves an outside source (university or private contractor), agency headquarter's approval is required.

Results of all evaluations of experimental technology funded with Burned Area Rehabilitation funds require a technology transfer product upon completion of the evaluation. The product may be in the form of technical notes or bulletins for distribution through the Agencies, professional papers, or presentations, or other products. These

products should describe the problem, solution, methods or techniques, and should be directed to a variety of audiences, including the public where feasible. It should, at a minimum, require the appropriate party (field unit, university, etc.) to publish and distribute a Technical Note and a copy of the note sent to the agency national ESR coordinator. Publication of results in scientific journals is encouraged, especially if outside cooperators conduct the evaluation.

6.2.5 Fire Use

Under the Federal Wildland Fire Policy, approved by the Secretary of the Interior, January 2001, all wildland fire (both planned and unplanned ignitions) is managed by the "appropriate management action." Wildland fires for resource benefits and prescribed fires are appropriate candidates for ESR action under limited conditions. ESR treatments may only be planned and implemented on prescribed fires that were declared wildland fires because resourced damages were caused by the fire. ESR treatments may only be planned and implemented on wildland fire for resource benefit when the Periodic Fire Assessment identified impacts caused by the fire on cultural and natural resources were outside the range of acceptable effects which in turn triggered the preparation of a Wildland Fire Situation Analysis (WFSA) to guide the selection of a different appropriate management response. ESR will only apply to that part of the fire that occurred after the declaration of a wildland fire (prescribed fire) or after resource damage occurs and triggers a WFSA (wildland fire for resource benefits).

Damage caused by the suppression actions are repaired and charged against the incident (fire) project code. All wildland fires that escape approve management actions are managed in accordance with decision in a WFSA. ESR cost estimates are to be include in the cost analysis portion of the WFSA.

6.2.6 Fuels Management

Post fire fuel management activities that are designed to address a fuels issue and not for site stabilization or prevent further degradation are not appropriate for Burned Area Rehabilitation funding but may be installed with other fuel management funds. Any alternative plant species seeded to create a fire resistant vegetative fuel break (e.g., green strip) in conjunction with a stabilization seeding that increases treatment costs are born by the benefiting activity (e.g., agency fuel management subactivity).

6.2.7 Legal Mandate Compliance

ESR activities must comply with all legal mandates (e.g., Clean Air Act, Endangered Species Act, Clean Water Act, historic and cultural resource preservation acts, etc.).

6.2.7.1 Clean Water Act

Certain ESR treatments are regulated under the Clean Water Act. The placement of earthen dams and/or straw bale or rock check-dams in stream channels may have impacts to aquatic resources and thus require authorization under Sections 404 and 401 of the Clean Water Act. Rehabilitation activities, such as the installation of straw check-dams, rock dams, culverts, and other measures intended to stabilize ground cover and slow the rate of soil erosion in perennial and intermittent stream channels and other waters of the U.S., including wetlands, require written notification to the local Corps of Engineers District Office. Locations of these types of treatments should be included in the written notification.

The Corps of Engineers may require modifications to ESR treatments to ensure that the environmental impacts to stream channels or wetlands are minimal. In the unusual circumstances that adverse impacts of the proposed activities are more than minimal, the Corps should notify the applicant that an individual permit is required. Examples of certain ESR activities that may require Section 404 authorization include:

- Placing rocks in a stream channel to create a check dam.

- Where roads or trails are being rehabilitated, the Corps of Engineers needs to be notified if the activity involves the discharge of fill material into stream channels or wetlands. Installing a larger culvert to accommodate increased flow in a stream channel would require Corps notification, however, cleaning sediment clogged culverts where that material is not discharged into the waterway would not require notification or permitting.

Section 401 of the Clean Water Act allows State and Tribal governments to review and approve or deny Federal permits and licenses that might result in a discharge to State or Tribal waters. States or Tribes make these decisions primarily by evaluating how the activity affects their water quality standards and water-dependent resources, including salmonids. Activities in the ESR program requiring Section 404 authorization must receive certification from the State that an activity meets its water quality standards.

6.2.8 Public Coordination

Interested members of the public are given reasonable opportunities for input and comment on all rehabilitation and restoration plans. Consultation with resource users, other agencies, scientists, and private and public interests is recommended to a degree appropriate with complexity and level of controversy associated with each plan. The origin (genetic varity) of plants used in revegetation (native or non-native) or techniques used in planting, can be controversial, and should be addressed early in the planning process.

Due to the need for prompt action following a wildland fire, public participation in ESR Plan development may be more limited than with other types of non-emergency project proposals. However, the public may still appeal the Decision Record/Rationale for the ESR Plan resulting in possibly delayed implementation of all rehabilitation treatments for at least 30 days. Therefore, every effort should be made to resolve issues with the interested public to avoid delays in implementing emergency treatments required to meet ESR objectives.

During the course of coordination and consultation, excellent opportunities exist to make or improve partnerships with permittees, conservation groups, public volunteers, and state or local government agencies for funding, material, or labor for rehabilitation projects. Joint planning and implementation with other land management agencies is encouraged on multi-agency fires.

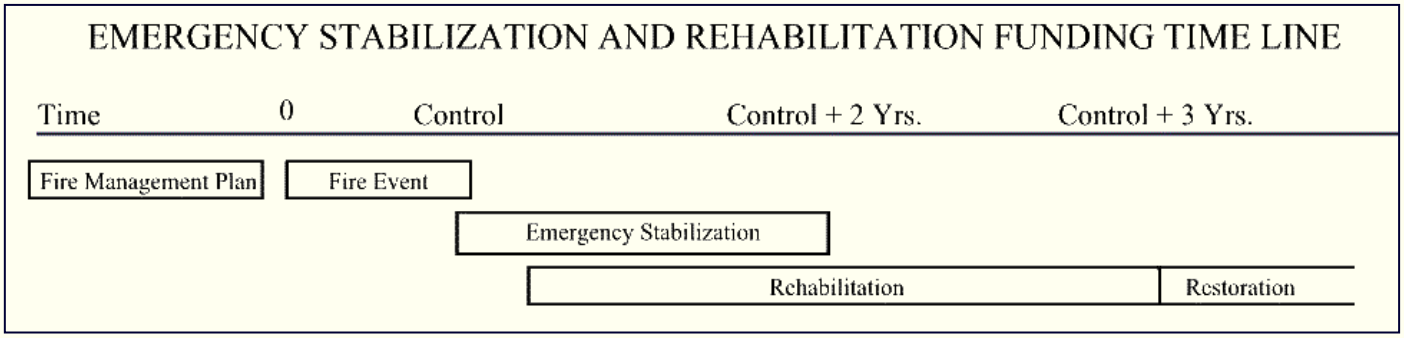
6.2.9 Recovering ESR Costs of Human Caused Wildland Fires

Costs associated with rehabilitating burned lands that are human caused should be recovered to the extent possible from the person or persons responsible for causing the fire.

6.2.10 Timeliness

Congress has determined that "it is in the best interest of the Nation to take swift action to rehabilitate burned lands." Therefore ESR treatments must be implemented, to the extent possible, before the burned site is further degraded by erosion, animal use, or undesirable vegetation becomes established. Treatment must occur at a time that insure a high or maximum probability of success. Therefore, treatment specification should address temporal effectiveness and ESR Plans should be submitted to the appropriate level of management for review and approval within the timeframes set by the individual agencies.

On multi-agency rehabilitation projects. Plans must be submitted to the authorizing officer within 10 days following control of fire. Approval/disapproval is within 7 days. If additional time is needed extensions must be approved at same level as plan approval. Individual agency plan completion and review timelines are different than those for multi-agency fires.



6.2.11 Treatment Failures

Treatments (seedings, erosion control structures, etc.) installed under an approved ESR Plan sometimes fail. If ESR treatments fail due to natural factors, such as drought or flooding, retreatment (reseeding or reconstruction) may be considered for 2 full growing seasons/3 years after control of the fire. All retreatments must be approved by the appropriate agency level after determination that the proposed actions are still required to meet ESR program objectives. Retreatment of seedings, where one component of the mix did not successfully establish and ESR objectives were met, is not appropriate with Burned Area Rehabilitation funds. Proper timing and planting techniques should minimize the chances of project failure and the need for retreatment.

6.2.12 Wilderness Study Areas / Designate Wilderness

- Wilderness Study Areas - Agency policy and guidance for management of Wilderness Study Areas (WSAs) should be consulted. In general Wilderness Study Areas are be managed in a manner so as not to impair their suitability for preservation as wilderness. Impacts from the equipment used for rehabilitation must be carefully planned to be the least intrusive necessary. The use of native species (does not include naturalized species) is recommended in WSAs. Exceptions to the use of non-motorized equipment in a WSA must be fully justifiable based upon an imminent and severe threat to high downstream values. Coordination with interested public and wilderness organizations is encouraged early in the planning process.
- Designated Wilderness Areas - Wilderness land management plans should be reviewed during plan development. Treatments in designated Wilderness Areas should utilize native species unless there is no reasonable expectation of natural regeneration. Rehabilitation equipment used in these areas is the minimum necessary and conforms with equipment restrictions for other management activities. Overland motorized equipment is not used where non-motorized equipment can accomplish the rehabilitation objective. ESR plans must conform with approved wilderness land management plans.

6.2.13 Wildland Fire Suppression Activity Damage Rehabilitation

Damage to improvements or to resources caused by fire suppression activities should be repaired or restored using Suppression Operations funds (suppression funding). This work should be completed by the incident management team prior to final demobilization of the suppression forces whenever practical. However, it may be more cost-effective and practical to delay some repairs to improve the chance of success. For example, repair of road damage by heavy engine traffic is not practical until sufficient moisture is present. Ordinarily road repairs should be completed within 10 months of wildland fire control.

The following repair activities (necessitated by suppression work) should be repaired with wildland fire suppression, not Burned Area Rehabilitation, funds include:

- Replacement of soil and seeding vegetation on firelines (see technical standards).
- Construction of water bars on primary and secondary fire control lines.
- Repair of structural improvements or facilities (e.g., fences) damaged by suppression activity.
- Repair of damage caused by operating the Incident Command Base (spike camps and roads.

- Historic property assessment of suppression activity damage before rehabilitation, and stabilization of historic properties damaged by the suppression actions.
- Slash Mitigation: Fire suppression activities can result in the unnatural accumulation of slash. The mitigation of slash, a direct result of suppression actions, must be paid for using suppression funding. The following are examples of circumstances which warrant mitigation action:
    - Fireline: Slash accumulation along dozer constructed firelines need to be scattered in order to facilitate runoff, thus preventing landslides, or expose unburned pockets of vegetation or burning stumps.
    - Structures: The removal of vegetation in proximity to facilities, structures, or historic properties created during wildland fire suppression may be necessary to protect such developments from fire, but may create a fuel accumulation susceptible to future ignition. Fuels accumulations should be mitigated via suppression funding and prior to demobilization of fire crews. Generally speaking, fuel or slash mitigation purely for the purposes of promoting "naturalness," restoring aesthetic quality, perpetuating a non-threatened or endangered species habitat a not covered in an approved land management plan is not an acceptable Burned Area Rehabilitation expense.
- Repair or treatment of road and bridges damaged by suppression operations.

    - Roads and Bridges - Make emergency repairs to **existing** roads and bridges. Suppression damage are charged to suppression accounts unless these repairs are done long-term.
    - Surface Grading and Chemical Treatment - Restore surface, grade, drainage and condition of permanent roads to meet minimum safety standards. Treatments may be used to rebind roads beat to powder by fire suppression apparatus.
    - Dust Abatement - Dust abatement treatments during and immediately following fire suppression actions.

The Suppression Account **must remain open** after the control of the fire until all fire suppression activity damage rehabilitation is completed because Burned Area Rehabilitation funding cannot be used to pay for suppression activity damage rehabilitation.

6.2.14 Wildlife

Wildlife populations are effected by habitat lost in wildland fires. Wildlife use may have a significant effect on the success of rehabilitation treatments. All protective exclusion fence installation or other animal control measure should be completed prior to damaging animal use of the burned or unburned adjacent lands.

- Habitat Loss and Replacement - ESR treatments must be consistent with wildlife habitat management objectives in approved land management plans. As with all seeding prescriptions, a combination of criteria including cost, adaptability, probability of successful establishment, weed competition, etc., should be considered before finalizing a seed prescription in important wildlife habitats.
- Wildlife Management during Recovery/Establishment Period - Wildlife may cause damage to burned areas during the recovery and/or seeding establishment period. Agreements with the appropriate wildlife management agencies (if needed) should be developed before the rehabilitation treatments are implemented, prescribing how wildlife is managed. The Emergency Stabilization section of the ESR Plan should identify what measures are needed to prevent further burned area degradation from wildlife use, and treatment specifications should address the timely implementation (no later then spring green-up after the fire).

6.3 TREATMENT STANDARDS

6.3.1 Cultural Resources

The goal of cultural resource funded under Burned Area Rehabilitation is to stabilize and protect known (documented before the fire) archeological sites, cultural landscapes, traditional cultural properties, cultural values and historic structures from further post fire degradation.

Rehabilitation treatments that disturb the soil surface are reviewed for potential effects on significant cultural resources. The appropriate cultural resource specialist should become involved in treatment planning as early as possible to determine if survey, protection measures, and consultation with Native American tribes and other parties are required prior to treatment. This early coordination is especially important where delays in obtaining cultural clearances could delay or halt timely plan implementation. Where significant historic properties are physically avoided by rehabilitation treatments, the avoided areas can be manually or mechanically treated. Equipment that causes minimum surface disturbance (for example broadcast seeded and seed covered with pickups or four-wheelers with drag chains) is encouraged. Close coordination with the rultural resource office staff personnel may help in this process.

Cultural clearances are addressed early in plan development to ensure that treatments are installed at the proper time. Emergency cultural clearances are covered by Burned Area Rehabilitation funding. Efforts are made to address the clearance questions in a timely manner as this is a constraint to treatment and the subsequent success of the project. Cultural clearances are performed in a cost-effective manner relative to the cultural values at risk. Where appropriate, Tribal input into the development of plans is solicited. Treatments evaluated as *No Historic Property* (e.g. no historic properties present), or as actions permitted under an existing agency programmatic agreement (PA) or memorandum of agreement (MOA) can be undertaken without further State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) consultation. *No adverse effect* treatments can be undertaken after appropriate consultation with SHPO or THPO. *Adverse effect* treatments should be addressed by the agency National Historic Preservation Act (NHPA) coordinator.

Patrolling necessary for public safety and natural and cultural resource protection. Attention should be given to whether the need is for public awareness contacts or actual law enforcement. For DOI bureaus special situations requiring additional funding for law enforcement may be described in the ESR Plan. For USDA, law enforcement should be accomplished within existing capability and funding authority, or by shifting priorities.

The following are appropriate ESR cultural resource activities funded by Burned Area Rehabilitation:

- A burned area assessment of fire induced unstable soils for their potential to result in the loss of historic properties.
- An inventory of known historic properties and/or unstable areas to determine the appropriate treatments needed. (Systematic inventories of all known historic properties within the burned area is not permitted.)
- The stabilization of known fire damaged historic properties to prevent further degradation. (Emergency stabilization treatments should be designed to have no aversive effect to avoid the need for a NHPA Section 7 consultation. If there is an effects, an expeditious NHPA Section 106 consultation is recommended.)
- The assessment of all ESR treatments to determine their effect on historic properties. (Treatments may or may not have an effect.)

6.3.2 Ecological Stabilization

Ecological stabilization consists of:

- Non-native Species Management: The control of non-native invasive plants or livestock, horses, and burros is critical for preventing further post fire degradation.
- Revegetation: Either planting seed with equipment and transplanting, e.g., planting seedlings (live plants) with mechanical equipment or by hand. Transplanting is generally done with either shrub or tree seedlings.
- Forest Rehabilitation:

6.3.2.1 Non-native Invasive Plant Control

Burned Area Rehabilitation funds are used to control non-native invasive plants on control lines and within burned areas when it can be documented that non-native invasive plants may quickly invade (gain entry) or hamper reestablishment of native vegetation or the revegetation activity. Any actions taken along these lines

must comply with existing approved land management plans.

Such work may include integrated chemical, biological, mechanical, and/or hand treatment methods, as well as, post-fire weed detection and monitoring. Treatments for weed control and periodic weed detection can be funded until the end of the second full growing season following wildfire control. Other funding sources for weed control must be found after the second full growing season. The use of integrated pest management methods is preferred over chemical treatments. All treatments must conform with agency specific policy.

Integrated Pest Management: The use of chemical, biological, mechanical, and cultural treatments necessary to minimize the establishment of non-native invasive species in conjunction with vegetative treatments or for site preparation purposed for other ESR treatments are funded through the ESR program. The use of herbicides to control post-fire non-native invasive species is appropriate if:

- The herbicides proposed are approved for use on public lands. All other applicable label and environmental restrictions must be followed.
- The application of herbicides is necessary to keep non-native invasive plants from invading and dominating the post-fire environment.
- The application of herbicides is necessary for site preparation before seeding or planting.
- The use of herbicides funded by the ESR program is limited to two growing seasons following fire control.

The revegetation of grasses, forbs and shrubs to prevent the establishment or reestablishment of non-native invasive species is an appropriate cultural treatment.

6.3.2.2 Non-native Animal Use

Exclusion of livestock is critical for the recovery of burned vegetation or establishment and maintenance of new seedings. Non-native animal use should not be permitted until the vegetation has recovered or established.

- Recovery/Establishment Period - Revegetated and burned but not revegetated areas should be closed to livestock grazing for at least two growing seasons following the season in which the wildland fire occurred to promote recovery of burned perennial plants and/or facilitate the establishment of seeded species. Livestock permittees must be informed of the closure early during the plan preparation process, and livestock closures should be made a condition or term on the grazing license or permit. Livestock closures for less than two growing seasons are justified on a case-by-case basis based on sound resource data and experience.
- Grazing Management After Recovery/Establishment Period - An evaluation is required at the end of the second growing season to determine whether additional livestock exclusion is required to meet rehabilitation objectives. Additional grazing exclusion may be required to achieve rehabilitation objectives, especially when palatable, slow-maturing shrubs are included in the rehabilitation project. Most shrubs should not be browsed until they are able to produce viable seed. Post-establishment livestock management in burned or seeded areas should maintain both the planted species and the native species to meet field unit objectives.
- Wild horses and burros may also need to be excluded from treatment areas. Burned Area Rehabilitation funds are used for fencing or relocation (both actions must be consistent with approved land management plans and agency wild horse and burro policy) until the area recovers. Exclusion or relocation must occur before the animals can significantly damage the remaining vegetation. If exclusion or relocation does not occur before spring green-up, exclusion or related actions should be discontinued. Additional use supervision may be required to ensure that wild horses or burros are not accidentally trapped within the treatment areas if they inadvertently gain access. It is also important to ensure that wild horses or burros do not get trapped without access to water or do damage to seeded or recovering burned areas. Care should be taken to minimize the blocking of migration or water trails with protective fences.

- Minimal Protective fences are constructed with Burned Area Rehabilitation funds to protect burned areas from grazing during the recovery period for burned vegetation or the establishment period for new seedings. Protective fencing may serve as either temporary protection or as a permanent management fence. Protection fences should be placed around the perimeter of the burn to the minimum degree required, considering topography, rock outcrops, soils, existing fences, etc. Protection fences should be reused on new ESR projects after the protection period is over if feasible.
  - Protection fences are generally installed:
    - To protect a new ESR seeding from grazing during the establishment period and to manage the seeding after it is established to maintain the seeded species.
    - Where native rangeland needs a rest period from grazing, and the area and does not require further special grazing management to maintain plant vigor or composition. Removal of protective fences can also be funded with Burned Area Rehabilitation funds.
  - Fencing that exceeds the amount required to protect new seedings or burned area should be funded with a benefiting subactivity. The fencing of private land to keep privately owned livestock off adjacent burned or rehabilitated public lands is the responsibility of the private land owner(s). Therefore, Burned Area Rehabilitation funds are not be used to fence the private/public land boundary unless state laws (e.g., herd districts are in place) require a different approach. Appropriate administrative and/or legal action should be taken against private land owners who fail to keep livestock from moving from private land onto agency land closed for rehabilitation purposes.
  - Herding and total pasture or allotment exclusion from grazing (closure) are alternatives to consider in lieu of fencing. For example, if 80% of an allotment, or pasture is burned, it may be more cost-effective to close the grazing unit rather than fencing the burned area to allow 20% of the unit's former grazing capacity to be used.
  - Cattle guards, gates and warning signs may be installed on county, agency or state roads, highways, and areas of high recreation use, where a gate would present a safety hazard to the public. Cattleguards are not installed with Burned Area Rehabilitation funds on lightly traveled roads and two-track trails. Any cattleguard installed in conjunction with a protection fence and removed with Burned Area Rehabilitation funds must be used on a future ESR projects.

6.3.2.3 Revegetation

Decision to Revegetate: Planting (by seeding or transplanting) for emergency stabilization in burned grasslands, shrublands, riparian areas, forests and woodlands is an appropriate use of Burned Area Rehabilitation funds if:

- Seeding or planting of shrubs, forbs, and grasses is to to prevent critical habitat for federal listed threatened or endangered species, or other special status species, from being permanently impaired, or to prevent erosion or mass wasting.
- Seeding or planting of shrubs, forbs, and grasses is to facilitate the natural succession of vegetative communities which would likely be subject to immediate and aggressive invasion of non-native invasive species after the fire.
- Seeding or planting trees has demonstrated to be cost-effective in meeting project objectives of stabilizing watersheds to prevent downstream damage on and off site.

The use of trees as (or as part of) a Rehabilitation treatment is permitted. Tree planting is limited to:

- Facilitating the succession and stabilization of forest ecosystems.
- Re-establishing habitat for federally listed threatened or endangered species, or other special status species.
- Reintroducing or re-establishing native tree species and seed sources lost in a stand replacement fire.
- Regenerating Indian trust commercial timberland identified in an approved Forest Management Plan, and that a certified silviculturalist has determined will not naturally regenerate for more than 10 years after the fire.

It is essential that the potential for recovery of native or seeded vegetation and invasion by weeds be evaluated prior to making a decision whether to seed a burned area. Revegetation of burned areas is not an appropriate use of Burned Area Rehabilitation funds if natural regeneration will result in a vegetation type that meets ESR

and approved land management plan objectives.

Herbicide application on burned land is funded with Burned Area Rehabilitation funds if invasive non-native plants are expected to increase to an unacceptable level or for site preparation purposes for other revegetation treatments. The potential for invasive non-native plant invasion is considered in developing the seed prescription. Don't include forb, shrub or grass species in the seed mixture that are susceptible to herbicides if it is likely that weed control may be needed after the rehabilitation seeding is established.

The Fire Effects Information System (FEIS) is a good source of information on fire effects and recovery potential for many plants. The Fire Effects Guide also provides useful information on fire effects. Burn severity as indicated by consumption of standing material, color of ash, depth of ash, and soil hydrophobicity, etc., is an indicator of the probability of the burned area to recover naturally and therefore not require seeding. Another source of information about potential species to be used in revegetation is the NRCS-USGS Biological Resources Division VegSpec website. The VegSpec is a web-based, expert system that aids technical people or managers in making sound decisions on what plants to plant on specific sites. It integrates the Natural Resources Conservation Service (NRCS) soils, plants, and climate databases to select plants to solve conservation problems. Other sources of information on vegetation (including the potential for invasion by undesirable species), soils, and site potential (ecological site) should also be reviewed to help determine if seeding is necessary is for the success of the rehabilitation project.

What to Plant (Native versus Non-native Plants): Species planted on burned areas must provide the protection required by ESR plan objectives, be consistent with the appropriate approved land management plan and be in compliance with Executive Order 13112, Invasive Species, February 3, 1999.

Non-native seed is appropriate only if:

- Suitable native species are not available.
- The natural biological diversity is not diminished.
- Exotic and naturalized species can be confined within the proposed treatment area.
- Analysis of appropriate information (including ecological site inventory) indicates that a site may not support reestablishment of a species that was historically part of the natural environment.
- Resource management objectives cannot be met with native species.

The Native/Non-native Worksheet (Exhibit 6-1) helps ESR planners analyzes the impacts of using non-native plants and lists the criteria for selecting native plants for revegetation. This worksheet is a required component (either as separate worksheet or incorporation of all worksheet elements into the Environmental Assessment) for all ESR Plans.

In addition to the criteria listed in the Native/Non-native Worksheet, the use of local seed sources for native plants is recommended, especially the proper subspecies of plants like big sagebrush. Important elements to consider in selecting a seed mixture that includes native plants include the following:

- Availability at a reasonable price. Reasonable price is not defined here because managers need the flexibility to make this determination on a case-by-case basis. Managers also need to consider that as the demand for native seed increases, production costs decline.
- Adaptation to the area proposed for treatment (avoid use of "one size fits all" seed mixtures on landscapes with different site potentials). The use of local native genotypes is encouraged.
- Impacts of competition (weeds, other plants in the seed mixture, land uses) on native plant establishment and persistence.
- Approved land management plan decisions, e.g., natives only in wilderness study areas (WSA).

Use of native species is preferred to the use of non-natives for rehabilitation projects. However, a mixture of native and non-native species is preferable to using only non-natives if all the desired natives are not available, and if the use of non-natives is consistent with approved land management plans. Competitive non-natives, e.g., crested wheatgrass, or in some locations yellow sweet clover, should be minimized in the seed mixture to

facilitate the establishment and persistence of the native species.

Seed Application: Planting techniques are based on the seedbed requirements of different plants. For example, some species may need to be planted in separate rows or different depths than other plant species. Seed should be drilled or covered by dragging a chain, harrow, or other implement. Use aerial broadcast seeding only where it has proven to be successful, based on experience or studies. Numerous scientific studies and technical specialists with experience should be consulted since success or failure of this type of project is contingent on proper seed application and coverage.

Seed should be planted during the appropriate season to ensure seed stratification (cold temperatures), germination, and establishment. Fall seedings are recommended for sites requiring cool season species revegetation. Spring seeding may be appropriate for warm season species in certain regions such, as in the Desert Southwest. Early spring transplanting of seedlings is recommended to better utilize available moisture, thereby improving the success of seedling establishment.

Testing of Seed and Vegetative Material: All seed is tested to insure compliance with the USDA State noxious-seed requirements recognized in the Administration of the Federal Seed Act. All purchased seed must meet all requirements of the Federal Seed Act (7 USC 1551-1610), the state seed laws where it will be delivered, and Federal specifications JJJ-S-181. All seed will be tested for purity and germination (PLS or TZ) to meet contract specifications and should be tested for weed and noxious weed seed. Seed in small quantities (<200 lbs.) can be used without testing but testing is recommended. Certified seed (i.e., blue or yellow tag source identified) insures the genetic origins of the parent plant material or the collection origin.

Tetrazolium tests, performed by state seed laboratories, may be used on shrub seeds and for species where dormant or hard seeds are common. Tetrazolium tests may also be authorized by the agency when seed laboratories do not have enough lead time to use a full germination test.

The use of certified seed is required (if available) to insure that desired genetic traits are present. The use of "source identified seed" is recommended when native seed is collected from wildland sites to insure that a local or otherwise adapted seed source is used to revegetate the burned area.

Straw and other vegetative mulch materials (rice hulls) should be purchased as "certified weed-free" by a State agricultural agency or should be sampled and tested for noxious weeds prior to use.

6.3.2.4 Forest Rehabilitation

Forest ecosystem rehabilitation should be considered if the ecosystem is unlikely to recover naturally from wildland fire damage. Seeding or planting of trees for emergency stabilization is appropriate if such actions have been demonstrated to be cost-effective in meeting project objectives of stabilizing watersheds to prevent downstream damage on and off site. Tree planting is limited to the following and must be addressed in an approved land management plan:

- Facilitating the succession and stabilization of forest ecosystems.
- Re-establishing habitat for Federally listed threatened or endangered species, or other special status species.
- Reintroducing or re-establishing native tree species and seed sources lost in a stand replacement fire.
- Regenerating Indian trust commercial timberland identified in an approved Forest Management Plan, and that a certified silviculturalist has determined may not naturally regenerate for more than 10 years after the fire.

The costs for cutting trees destroyed by fire where they are a danger to the public is appropriate, as is the use of trees in contour felling to reduce the possibility or amount of erosion. Trees may be strategically planted to prevent mass wasting.

Fire damaged timber may quickly deteriorate due to blue stain and infestation by bark beetles. Fire salvage sales

may need to be prepared, sold and administered immediately. Although the initial burned area assessment of forest resource loss is funded via Burned Area Rehabilitation, a detailed timber salvage assessment and the costs associated with the actual salvage sale (i.e., timber inventory, contract preparation, etc.) cannot be charged to the Burned Area Rehabilitation account.

6.3.3 Field Unit Infrastructure

6.3.3.1 Minor Facilities

The repair or replacement of minor improvements and facilities (e.g., kiosks, fences, interpretive or boundary signs, recreation facilities, water control structures, corrals, guzzlers, trails, permanent long-term monitoring plots, etc.) burned or damaged by fire to pre-fire specifications is authorized with the use of Burned Area Rehabilitation funds only if these improvements or facilities are addressed in an approved land management plan. It does not include the construction of new or upgraded facilities that did not exist before the fire. Rehabilitation and maintenance of burned improvements beyond 3 years from control of the fire is funded by base funding. Minor facility repair or replacement is addressed in the Rehabilitation section of the ESR.

6.3.3.2 Major Facilities

Replacement or repair of major facilities (e.g., visitor, centers, residential structures, administration offices, work centers or similar facilities and their contents) with Burned Area Rehabilitation funds is prohibited.

6.3.3.3 Facility Construction/Structural Stabilization and Clean-up

A visual inspection for hazardous conditions/materials and structural integrity of structures affected by fire is required prior to the structure being reopened or made accessible to the public. Inspections are conducted for structural integrity by a qualified engineer assigned to the interdisciplinary rehabilitation team or project. A written condition assessment (including hazardous materials - HAZMAT) of each affected structure is submitted as part of the approved ESR Plan. Should this assessment occur following demobilization and the closure of the fire suppression accounts, it can be funded with Burned Area Rehabilitation funds. Burned Area Rehabilitation funds are not be used to develop reconstruction or repair plans or to initiate or complete any of the work outlined in these documents (including HAZMAT mitigation). For safety purposes, security measures required to block public access to damaged structures may be funded by Burned Area Rehabilitation funds. Facilities utilized by suppression forces should be cleaned/repaired using the fire suppression account and may include such activities as carpet cleaning, painting, etc.

6.3.3.4 Early Warning Flood/Evacuation System

Remote Automated Weather System or satellite driven systems are often times necessary to monitor rainfall amounts and intensity in moderate to high intensity burns in immediate proximity to values at risk (highways, structures, etc.). The initial installation and maintenance can be funded for 3 years following control of the fire. Continued operation and maintenance after that time must be funded with other funds. Any hardware that is purchased as a result of these activities should be cached for reuse on other incidents.

6.3.4 Health and Safety

Public use facilities that pose a health or safety risk can be stabilized or closed to public use using Burned Area Rehabilitation funds to protect human health and public safety.

- Public Safety: Providing the law enforcement resources necessary for protection of public safety and of natural and cultural resources as a result of rehabilitation projects. For DOI bureaus special situations requiring additional funding for law enforcement may be described in the ESR Plan. For USDA, law enforcement should be accomplished within existing capability and funding authority, or by shifting priorities.

- Road, Trail, and Safety Signs: Signs necessary to close trails, warn of pending floods, promote public safety or otherwise assist with rehabilitation actions (directional, road, danger signs, etc.) may be procured and installed using Burned Area Rehabilitation funds.
- Tree Hazards: Hazard tree mitigation can be funded to protect life and property in developed public use areas, including road corridors, and officially designated trails. Trees to be felled must have been killed or damaged by the fire and must display an overall hazard rating of five in accordance with the Tree Hazard Rating System (Exhibit 6-2). Trees damaged by fire suppression actions and deemed hazardous must be removed under fire suppression accounts. When appropriate, the use of explosives and/or heavy equipment to make a more natural stump effect (e.g., lightning struck tree) is appropriate when justified in the approved ESR Plan. Hazard tree mitigation, whenever conducted, is a discretionary function exercised by the agency administrator and therefore the mitigation of these hazards may not occur on every fire. Timber salvage is **not** authorized with Burned Area Rehabilitation funding.
- Sanitation: The removal of all trash and human-caused debris within the burned area and resulting from rehabilitation activities may be funded by Burned Area Rehabilitation funds.
- Trail Stabilization: Trails are only rehabilitated with Burned Area Rehabilitation funds to satisfy safety requirements and only after no other option (i.e., trail closure) is available. The rehabilitation of any trail to a standard above its pre-fire standard is also prohibited unless no other option is available (trail closure). Appropriate trail rehabilitation measures which are funded with Burned Area Rehabilitation funds include:
    - Trail Slopes **-** Rehabilitation of burned slopes in the range of 30% - 60% in immediate proximity above and below the trail.
    - Hazard Trees - Removal of downed trees which create obstructions and pose a threat to trail users, and the felling of hazard trees with a rating of five or higher.
    - Handline - This work may include removal of newly constructed fire access to trails by fire suppression crews. These trails are usually located without regard for the qualifying conditions necessary for safe public use.
    - Waterbars (breaks) - Rehabilitation of the soil, rock or log waterbars is appropriate. Waterbars damaged or destroyed as a result of suppression efforts are repaired and/or replaced with fire suppression funding. The absence of waterbars may create erosion induced safety hazards.

6.3.5 Monitoring

Monitoring to determine if ESR treatment objectives were met or additional treatments are needed is an integral part of all ESR Plans. Monitoring intensity should be commensurate with the complexity of the rehabilitation treatments, level of concern or controversy associated with the emergency stabilization or rehabilitation treatment, and compatible with approved land management plans. Monitoring needs, design and protocals are defined in the individual ESR Plan treatment specifications.

Burned Area Rehabilitation funds **is limited** to:

- Determining if treatment is needed. (e.g., non-native invasive species control - It is appropriate to monitor non-native invasive species populations for the purpose of implementing a prescribed control method. It is not appropriate to monitor non-native invasive species populations and not implement any control.) If monitoring is to be conducted to determine if a treatment is needed (i.e., invasive species control), the treatment specification must include a threshold level where the treatment is initiated (e.g., presence of Canada thistle, 10 percent cover of cheatgrass, etc.) and a practical, cost-effects management action to be undertaken (e.g., mechanical removal, broadcast application of OUST, etc).
- Determining primary treatment effectiveness. (e.g., Planting native willow and cottonwood trees for riparian bank stabilization. It is appropriate to monitor whether the willow and cottonwood trees successfully survived, grew and stabilized the bank, but not appropriate to monitor changes in wildlife habitat structure, condition, or use. It is not appropriate to monitor the native or planted willow and cottonwood trees to determine whether ungulate use may be impacting survival unless the ESR Plan identifies a practical, cost effective remedy (i.e., access closure or animal removal) to address that use and a designated impact threshold level when the remedy is implemented.)

Burned Area Rehabilitation funding **is not** appropriate for:

- Monitoring to determine if the decision not to implement any treatment was appropriate (i.e., monitoring natural recovery). (The use of an untreated area (control) in a paired comparison experimental design to evaluate the effectiveness of a treatment is acceptable.)
- Monitoring the impacts or effects of the fire (e.g., water quality monitoring to evaluate the impacts of the burn on and post fire recovery of the endangered Lahanton cutthroat trout, post-fire monitoring of threatened and endangered species presence, reproductive status and reproductive success, etc.).
- Long-term monitoring (> 3 years following control of the fire) related to treatment longevity and effectiveness and the plant community dynamics of the project.

This type of monitoring is appropriate for Joint Fire Science Program, National Fire Plan, or agency base funding.

Monitoring and evaluation to determine the effectiveness of treatments is funded for up to three years following control of the fire. Funding for a third year requires the submittal of the Initial Accomplishment Report on success/failure of treatments during the first two years. All obligations incurred beyond the third year must be funded by other than Burned Area Rehabilitation subactivity funding.

Monitoring priority should be given to those areas where unique treatments were implemented or where resource values or public concerns are high. Monitoring priority should also be considered to detect changes between untreated (natural revegetation, untreated watersheds, etc.) and treated (planting and seeding, treated watersheds, etc.) areas.

Effective monitoring methods should be used (e.g., Fuel and Fire Effects Monitoring Guide, or other accepted monitoring protocols). Cooperative efforts in monitoring the results of ESR projects are encouraged; these efforts could be with research organizations, neighboring offices, agencies, or universities.

Monitoring information and results should be retained in a central location in at least one permanent retention file. Information gained in monitoring is strongly encouraged to be shared through professional papers, technical bulletins, symposia, workshops, etc.

6.3.6 Pre-approved Treatments

There are instances where emergency stabilization actions need to begin while developing the ESR Plan and before ESR Plan approval. The following are standard hillslope, channel, road, and public health and safety treatments that can utilize existing equipment, supplies, material, and people and are pre-approved (official agency approval via agency memorandum may also be needed) for all fires where there is a high potential of a significant storm event before the ESR Plan (or Programmatic Plan Supplement) is completed and significant values (human safety, natural and cultural resources, etc.) are at risk. Any pre-approved treatment implemented is to be documented in the ESR Plan.

- Hillslope Treatments
  - Contour-Felled Logs (Log Erosion Barriers, Log Terraces, Terracettes) on slopes < 75 percent.
  - Slash Spreading.
  - Contour Trenching and Terraces using hand crews on slopes of < 70 percent with fairly deep soil where visual impacts is not a concern.
  - Mulch
- Channel Treatments
  - Straw Bale Check Dams in drier regions, on small drainage areas that have low gradients (< 30 percent) and in channels that are not incised.
  - Log Dams in drier regions, on small drainage areas that have low gradients (< 30 percent) and in channels that are not incised and a ready supply of logs on site.
  - Straw Wattle Dams on first order ephemeral channels with slopes less than 45 percent gradient.
  - Channel Debris Cleaning where there is enough post-fire organic debris in riparian areas.

- Road Treatments
  - Rolling Dips/Waterbars/Cross Drain/Culvert Overflow/Bypass
  - Storm Patrol immediately following a significant storm event.
  - Culvert Removal of undersized culverts before the first damaging storms.
- Public Safety and Health Treatments
  - Road and Trail Closures
  - Emergency Structure Support and Protection
  - Human population evacuations

Even if a treatment is not pre-approved, preparation work (e.g., getting bid information, supply sources, etc.) can begin before plan approval.

6.3.7 Public Use Management

Agency administrators should consider area closures to protect public safety, natural recovery, and active emergency stabilization or rehabilitation treatments. Burned or seeded areas may be temporarily closed to the public by excluding vehicle, bicycle, horse, and foot use if unacceptable resource damage would occur or if danger to the public is present due to fire damage or rehabilitation activities. Field unit land management plans should be reviewed prior to implementing rehabilitation measures to identify other areas of special management concern (Areas of Critical Environmental Concern, outstanding natural areas, primitive areas, Wild and Scenic Rivers, National Trails, Research Natural Areas, National Conservation Areas, National Monuments, etc.) to ensure rehabilitation treatments are consistent with management objectives for these special management areas.

6.3.7.1 Law Enforcement

Law enforcement costs to enforce public restrictions or closures should be reasonable and accomplished within existing program funding (e.g., benefiting activities). For DOI bureaus special situations requiring additional funding for law enforcement may be described in the ESR Plan. For USDA, law enforcement should be accomplished within existing capability and funding authority, or by shifting priorities.

6.3.8 Threatened and Endangered Species

The burned area assessment should identify what impact the fire had to threatened and endangered species and what, if any, cost effective mitigation measures (e.g., creation of artificial red-cockaded woodpecker nests in standing pine trees) can be implemented to prevent further post fire condition degradation. In most cases little can be done. Post fire monitoring of threatened and endangered species status or recovery is not funded with Burned Area Rehabilitation funds unless the monitoring is for the purpose of assessing treatment effectiveness of threatened and endangered species mitigation measures.

All ESR Plans should be reviewed to determine if threatened and endangered species or their habitat would be benefited or adversely affected by the implementation of rehabilitation treatments. Field units consult with the U.S. Fish and Wildlife Service - Ecological Services Offices (or National Marine Fisheries Service, as appropriate) on all ESR actions that may affect a threatened and endangered listed species or its habitat to ensure compliance with Section 7 of the Endangered Species Act. A similar process is required for state agencies when state-listed species are involved. Timeframes for review and consultation may last several months. Therefore, every effort should be made to initiate these actions early in the rehabilitation planning process.

6.3.9 Watershed Stabilization

Watershed stabilization include those emergency stabilization treatments necessary to protect life, property and watershed values (soils productivity and water quality). Watershed treatments may meet either a prevention strategy or a control strategy. Prevention strategies are treatments applied at the potential source of an

emergency, to prevent an emergency from developing. Examples of prevention treatments are those applied to ground surfaces to prevent surface erosion, to control overland runoff, to trap sediment, to encourage infiltration into the soil profile, and to stabilize sites of potential deep erosion, or mass wasting. Protection strategies are based on recognition that an emergency cannot be prevented by direct application of prevention treatments to flood/debris flow source areas. Protection strategies are treatments designed to control an emergency when it happens, to slow or delay flood flows, to distribute sediment loads spatially over time, and to directly control flood runoff within channels.

6.3.9.1 Surface Stabilization Strategy:

The primary objective of surface stabilization and protection treatments within a burned area is to protect site productivity by lowering the erosion hazards following the fire. Treatments are designed to provide effective ground cover for reducing surface erosion potential and to increase infiltration rates; to control overland runoff, thereby reducing erosion; and to protect water quality by reducing surface erosion, stabilizing residual ashes, and enhancing infiltration rates within the flood source areas. Treatment effectiveness and implementation can be found in Appendix I.

- Aerial and Ground Seeding: See revegetation of burned areas. Seeding should be done only for purposes of protecting life and property, prevent the establishment or reestablishment of non-native invasive species, or for preventing the loss of irreplaceable resources (including Threatened and Endangered species, candidate species, and historic properties). Specific legislation may also provide specific justification for protecting soil and/or watershed values. Reseeding specifications for ESR purposes must be compatible with approved land management plans. Field units without specifically approved plans must submit reseeding proposals in accordance with agency guidelines or choose seed from pre-approved local and regional lists. Seed used for ESR treatments is subject to appropriate State seed and weed laws and is tested for purity and germination. Funding for stabilizing suppression impacts should come from the suppression funding.
- Mulch (straw and chips): Mulch used to retard overland flow and protect soil from rain drop impact and increase soil moisture holding capacity can be effective. Only formally certified noxious weed-free material should be used, not to exceed a rate of 2000-4000 lbs/acre. Uncertified straw is only used as a last resort in developed or unnatural zones specifically identified in approved land management plans, state laws and local ordinances only if post-rehabilitation monitoring for invasion of noxious and non-native plant species is conducted.
- Geotextures, Erosion Cloth/Soil Netting: Biodegradable erosion cloth/soil netting is cost effective only when used to stabilize slopes above high-risk areas (e.g., campgrounds). Soil netting can also be used to stabilize firelines. Soil netting on firelines are charged to suppression funding.
- Log Erosion Barriers, Silt Fences:and Straw Wattles: Contour tree felling (contour log terrace) and straw wattles are installed with Burned Area Rehabilitation funds to trap sediment and improve infiltration, prevent slope rilling and replace woody material consumed by fire. The construction of these devices is an approved, acceptable Burned Area Rehabilitation funded practice when utilized for stabilizing slopes greater than 30% and less than 60%.
- Contour Trenches: Contour trenches are installed with Burned Area Rehabilitation funds to trap sediment and improve infiltration, and prevent slope rilling. The construction of these devices is an approved, acceptable Burned Area Rehabilitation funded practice when utilized for stabilizing slopes greater than or equal to 20% and less than or equal to 40%.
- Strip/Contour Tillage (ripping; discing): Prescribing mechanical earthwork to control runoff, such as ripping or discing on the contour or old roads, can be used to increase infiltration.
- Lop and Scatter (slash distribution): Spreading limbs and branches of trees and shrubs on a slope (slash) provide protection from raindrop impact. If the branches and limbs are crushed or worked into contact with the soil surface, they also help break up concentrated surface runoff and reduce erosion.
- Temporary Fencing: Fencing installed on a grazing allotment or other unit to keep livestock out of burned area are funded with Burned Area Rehabilitation funds **only when moving livestock is not feasible**.

- Planting Trees and Shrubs for Protection from Localized Mass Soil Erosion: Planting seedlings only in moderate or high burn severity areas is funded with Burned Area Rehabilitation funds only where excessive soil erosion precipitating mass soil wasting and/or potential source areas for debris flows may occur due to root rot of dead, burned trees. Since shrubs are not considered to be effective for use in short-term stabilization of soils, this treatment is used **only in very rare circumstances** where the long-term potential for erosion occurs in immediate proximity to human property values at risk.
- Chemical Treatments: The chemical treatment of soils to break up or reduce water repellency may also be funded through Burned Area Rehabilitation. In contrast, some chemical treatment may be necessary to rebind soils on roads that have been reduced to powder via fire suppression traffic. Chemical treatments do not provide any ground cover and therefore have application in limited situations. Chemical treatments have generally not proven to be effective for broad application within burned areas.

6.3.9.2 Watershed and Property Protection Strategy:

The primary objectives of watershed and property protection treatments are to provide adequate drainage for increased flows to protect water quality and downstream values. Only treatments that create the least disturbance and have the least cost while providing for adequate drainage are prescribed under ESR. Treatments are designed to provide effective means to trap and stabilize in-channel sediments, control down cutting, maintain the integrity of channel morphology, and minimize flash flooding. The following channel treatments are eligible for Burned Area Rehabilitation funding:

- Grade-control Structures: Check dams are used to protect water quality by maintaining channel form and capacity. The primary objective is to prevent down cutting, head cutting and gully action, which also effectively prevents the generation of new sediments in burned area channels. To qualify for Burned Area Rehabilitation funding, these structures should be rock or natural check dams that stabilize the channel bedload, but do not trap sediments. Structures are designed with the same morphology as the original channel, with no defined spillway. The ends of each grade stabilizer are elevated above the base level channel to provide an armored cross section that will pass a design flood. Sediments are permanently stabilized on a level gradient above the spillway, and are temporarily stabilized on a gradient equal to the original channel gradient.
  - Log dams and in channel felling slow flow and trap sediment
  - Sand bags, Log grade and rock grade stabilizers stabilize channels reduce undercutting
- Straw Bale and Straw Wattle Check Dams: The purpose of these check dams is to stabilize in-channel sediments, trap suspended sediments, and control down cutting for one to three years, then slowly release stored sediments as the check dam materials deteriorate. This is a treatment with short term effectiveness for sediment control. The trapped sediments are then released after the watershed has recovered from the effects of a wildland fire.
- Silt Fences: Silt fences can be used in channels to stabilize in-channel sediments, trap suspended sediments and control down cutting for one to three years. Silt fences generally have a longer lifespan than straw bale check dams.
- Armoring: Armoring crossings, culverts, channels, etc. is used to protect water quality by providing mechanical strength and protection to sites within a channel system. Typically, armoring is installed as some form of riprap at locations where bridges or culvert require protection from flood flows.
- Debris Removal: Woody debris within channel systems can pose serious threats to downstream facilities or to human life if it is mobilized during flood flows. In order to qualify for rehabilitation funding, fire rehabilitation teams and/or rehabilitation specialists must determine if the potential for downstream damage to life and property is sufficiently high to justify the removal of the debris. Furthermore, these actions must be carefully coordinated with fisheries, hydrology, and other personnel prior to removal of debris that poses serious risk to water quality and other resources. Burned Area Rehabilitation funds may be used to excavate sediment that has been deposited into channels due to erosion of stream banks as a result of fire impacts. Sediment should be placed back onto slopes from which it came and the soil surface recontoured. The channel should be reshaped to the preexisting stream channel form and gradient. Nearby duff and litter should be scattered into the side slopes to help reduce surface erosion. All other debris placed into stream courses as the result of suppression actions may be removed, including felled trees, using suppression funding.

- Riparian Revegetation: Stream banks in burned areas may be stabilized by replanting pre-fire riparian vegetation species.
- Ditch Improvements (Trash/Debris Rack, Road/Culvert Protection, etc.): Ditch improvements may be funded with Burned Area Rehabilitation funding to prevent additional damage to all-weather roads, trails, or to protect downstream life and property from potential flood events. Fire suppression funding are used to repair or replace damaged racks and culverts as a result of fire suppression activities. The following developed road/culvert treatments may be prescribed and financed via the Burned Area Rehabilitation subactivity:
  - Increasing ditch capacity
  - Installation of trash/debris racks
  - Installation of bypasses around culverts
  - Installation of riser pipes or culverts
  - Upgrading culverts
  - Installation of larger culverts
  - Removing undersized culverts
  - Gabion debris dams
  - Energy dissipaters
  - Road closure
- Installation of Road/Trail Water Diversion Implements: these treatments may be funded via the Burned Area Rehabilitation subactivity only when damage to pre-existing structures was not caused by fire suppression apparatus or when new structures are needed post-fire due to increased runoff from the burned area. Treatments include the installation of the following:
  - Rolling dips
  - Outsloping roads
  - Trail work
  - Road rocking
  - Rock bottom dips
  - Water bars
- Debris Basins, flood-water impoundments, release tanks, levees: Prescribe the design and construction of major structures for treatment of emergency watershed conditions only when all other treatments have been evaluated and shown to be insufficient to reduce the emergency to an acceptable level. These are generally intended to be temporary structures. Design these structures to provide direct protection to life and property downstream. Generally, this type of treatment has limited applicability for the following reasons:
  - The design of major structures must be prepared by a qualified engineer with the appropriate experience and may require State or Federal permits and approval.
  - The construction of the structures generally requires several months and may extend well into the "high risk" timeframe associated with the first damage-producing storms. Treatments involving stabilization structures in the initial approved plan should be accomplished before the next damaging storm or runoff event or to prevent further degradation.
  - Any improvement or diversion of water an which are 25 feet or more in height from a natural bed of watercourse measured at the downstream toe or lowest elevation of the dam to the dam or which have impounding capacity at maximum water storage elevation of 50 acre feet or more must comply with the National Dam Inspection Act, P.L. 92-367.

6.3.9.3 Removal Strategy:

Often times, it is more feasible or cost effective to move some values at risk than it is to attempt to protect those values on the site. For example, the removal of an out-building from a park or 250,000 fish from a fish hatchery that lies immediately adjacent to a high flood risk area. In this example, the fish are considered to be federally owned property. The removal of a potential property loss from the path of a predicted flood are funded via Burned Area Rehabilitation funds if the following conditions are met:

- Costs of removal and relocation of property (after flood risk, back to original site) does not exceed $25,000 OR the value of the target.

- The approved ESR Plan contains a flood risk potential map which shows the location of the property within the anticipated HIGH flood risk area.
- The property is federally owned.

Exhibit 6-1 NATIVE/NON-NATIVE PLANT WORKSHEET

This worksheet is required for all ESR Plans. These criteria are evaluated by the interdisciplinary team preparing the ESR Plan. Each element requires a short narrative/rationale.

Proposed Native Plants in Seed Mixture

1. Are the native plants proposed for seeding adapted to the ecological sites in the burned area?

Q Yes Q No
Rationale:

2. Is seed or seedlings of native plants available in sufficient quantity for the proposed project?

Q Yes Q No
Rationale:

3. Is the cost and/or quality of the native seed reasonable given the project size and approved field unit management and ESR Plan objectives?

Q Yes Q No
Rationale:

4. Will the native plants establish and survive given the environmental conditions and the current or future competition from other species in the seed mix or from exotic plants?

Q Yes Q No
Rationale:

5. Will the current or proposed land management (e.g., wildlife populations, recreation use, livestock, etc.) after the seeding establishment period maintain the seeded native plants in the seed mixture?

Q Yes Q No
Rationale:

Use of native species for rehabilitation projects is required if all the answers to this portion of the worksheet are yes (assuming that the native plant species are available).

Proposed Non-native Plants in Seed Mixture

1. Is the use of non-native plants necessary to meet objectives, e.g., consistent with applicable approved field unit management plans ?

Q Yes Q No
Rationale:

2. Will non-native plants meet the objective(s) for which they are planted without unacceptably diminishing diversity and disrupting ecological processes (nutrient cycling, water infiltration, energy flow, etc.) in the plant community?

Q Yes Q No
Rationale:

3. Will non-native plants stay on the site they are seeded and not significantly displace or interbreed with native plants?

Q Yes Q No
Rationale:

A "no" response requires additional analysis in the environmental assessment or selection of an alternate species in the seed mixture.

PROPOSED SEED MIXTURE

Non-native Plants	Native Plants

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7 BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION PLAN DEVELOPMENT

7.1 ASSEMBLE BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION TEAM

The agency administrator is responsible for Burned Area Emergency Stabilization and Rehabilitation (ESR) Plan development which may include assembling a burned area emergency stabilization and rehabilitation team to conduct burned area assessments and begin plan development. If emergency stabilization actions are anticipated, the ESR team should be assembled and ready to work within sufficient time to complete the emergency stabilization section of the ESR Plan to meet agency timelines.

The disciplines represented by the ESR team vary according to the complexity of the fire and availability of personnel with different skills and backgrounds. Generally the team should include resource specialists (wildlife, ecology, range, watershed, invasive species, historic properties, etc.), a member knowledgeable about soils, rehabilitation, contracting and word-processing. A team member may represent several skills. The inclusion of expertise from cooperating agencies or offices in the team effort is encouraged especially when the needed skills are not available within the agency. When an ESR team is needed on a complex wildland fire or a fire that crosses agency boundaries, a national ESR team may be requested.

Mobilization procedures for a national ESR team is described in the National Mobilization Guide and should be followed to ensure rapid, efficient response to an agency administrator's request. The requesting agency will prepare a delegation of authority for an ESR team to develop and prepare the ESR Plan. Demobilization of an ESR team will be through normal dispatch channels and

processes. Depending on workload, a national ESR team may be reassigned directly from one incident to another (after appropriate rest and relaxation).

Complex, long-term, rehabilitation projects on large fires may require a formal Project Operations Plan (Exhibit 7-1).

7.2 FUNDING BURNED AREA ASSESSMENTS AND EMERGENCY STABILIZATION PLANNING

Burned Area Rehabilitation subactivity funds can be used to pay Base 8 salaries (non-fire funded personnel only), overtime, operational costs (aerial photography, global positioning system (GPS) work, etc.), and travel for ESR team members conducting burned area assessments and developing the emergency stabilization section of the ESR Plan. When a fire damage assessment needs to extend longer than the emergency stabilization planning schedule (i.e., 10 days multi-agency), the emergency stabilization section of the ESR Plan contains the specification(s) for conducting the extended assessment(s) that are needed.

7.3 REVIEW OF CURRENT AVAILABLE RESOURCES AND WILDLAND FIRE DATA

Prior to field inspection of the burned area, the ESR team should review the field unit fire, land and resource management plan and relevant step-down plans. The team should also review all fire suppression operational plans and Wildland Fire Situation Analyses. Suppression plans/actions provide valuable information concerning the relative values the field unit places on individual resources.

Only emergency stabilization and rehabilitation treatments that are compatible with approved land management plans can be funded with Burned Area Rehabilitation funds. The ESR team should also have all relevant resource management data including monitoring studies and inventories (vegetation, cultural, and Threatened and Endangered, including sensitive species). Monitoring studies and vegetation inventories provide valuable information on pre-burn invasive species populations and plant composition that may be useful in deciding what actions may be necessary, or whether natural recovery may preclude the need for intensive treatments.

Information on the fire history, fire ecology and effects, fire management

planning, historic properties, and especially the success or failures of past fire stabilization and rehabilitation treatments is essential in developing proposed treatments. Soil surveys contain important information on characteristics of soils relative to erosion potential, the success of seedings, and the operation of seeding equipment (rockiness, steep slopes, shallow soil profiles, etc.). This basic background information could also be instrumental in planning the seeding techniques, including the use of seed drills, aerial application or the necessity for chaining the seed into the soil surface. Additionally, potential vegetation types can be derived from the ecological site information in the soil survey to assist in the selection of appropriate native species for seeding.

Areas of concern (e.g., wilderness and wilderness study areas, areas of critical environmental importance, erosion hazards, threatened and endangered species habitats, historic properties etc.) should also be identified from field unit records prior to field inspection.

Aerial photographs and maps are essential tools for the ESR team to include on initial fire inspections. Habitat improvements and other agency facilities within the wildland fire perimeter are plotted on maps/photos to assist the ESR team in identifying burned structures for reconstruction or replacement consideration.

7.4 SAFETY

ESR safety policy is the same as the fire management safety policy **- Firefighter and Public Safety Is the First Priority in Every Fire Management Activity.** All ESR Plans and activities must reflect this commitment. Accordingly, ESR team members conform to National Wildfire Coordinating Group (NWCG) safety, training, qualification, and incident business management standards prior to control of the fire.

ESR plan development activities need to be closely coordinated with fire fighting activities to avoid conflicts between fire fighting efforts and ESR planning. ESR burned area assessment activities must be scheduled for areas within the perimeter of the fire where suppression activities have been successfully completed and fireline hazards mitigated.

7.5 BURNED AREA ASSESSMENT

After the preliminary information has been reviewed and assembled, the ESR

team conducts one or more field inspections of the burned area to assess damages caused by the fire - Burned Area Assessment (Exhibit 7-2). This is planned and undertaken in an expeditious manner to insure the completion of any necessary plan within the appropriate time period. The burned area must be evaluated to determine if (related to the Burned Area Rehabilitation funding actions):

- Life or private property is threatened if rehabilitation practices are not implemented.
- Historic properties listed on the National Register of Historic Places are at risk.
- Federal and State listed threatened or endangered species or their habitat may be further degraded if stabilization actions are not implemented.
- Adequate desirable vegetation should recover to stabilize soil and prevent on- or off-site soil erosion problems or intensive soil stabilization treatments are necessary.
- Non-native invasive species pose an unacceptable risk.

The impacts of wildland fire on ecosystem health, historic properties, threatened and endangered species, Native American or other cultural values, etc. should also be evaluated for appropriate stabilization or rehabilitation action. The action may take the form of funding to mitigate impacts of the fire or needed coordination with other entities or offices.

The ESR team evaluates burn severity and determines the potential for recovery of the burned vegetation throughout the burned area. One of the most important determinations made by the ESR team during the inspections is, "Will the burned area naturally recover or will seeding native shrub, forb, and/or grass species be needed to stabilized the area?" Reseeding burned areas that would recover naturally is not cost-effective and may lead to dominance of non-native plants that inhibit recovery of native plants.

The ESR team should review and become familiar with the information contained in the Fire Effects Information System (FEIS) computerized database, the Fire Effects Guide, and other relevant literature, documentation, and expertise. The FEIS, is described in "Fire Effects Information System: User's Guide, USDA Forest Service General Technical Report INT-GTR-327. It contains information on about 900 plant species, 90 animal species, and 25 plant communities. Summaries are updated periodically, as new fire ecology

information becomes available. The Fire Effects Guide, sponsored by the NWCG, is available from the Publications Management System manager at the National Interagency Fire Center (NIFC) warehouse as NFES 2394. Numerous other technical references should also be consulted and are available via the Internet (the NRCS websites) and other locations to insure that the appropriate techniques and plant species are utilized in planned projects.

7.6 ESR TEAM RECOMMENDATIONS

Upon completion of the burned area field inspections, the ESR team reports its findings and recommendations and provide an agency administrator briefing (Exhibit 7-3). Options for emergency stabilization and/or rehabilitation, potential costs, consultation and cooperation needs, and potential controversies associated with the proposed ESR treatments are presented at this time. The agency administrator accepts, modifies or rejects the ESR team's recommendations and gives direction to the team whether to proceed with the ESR Plan, or possible alternatives. Agency Fire Management Coordinator involvement at this time is useful to assure conformance with Burned Area Rehabilitation funding constraints.

7.7 PREPARING THE ESR PLAN

The ESR team begins preparation of the ESR Plan based upon the results of the burned area assessment(s) and agency administrator's input. The ESR Plan may contain an emergency stabilization and/or rehabilitation section.

In addition to preparing the ESR Plan, the ESR team may work with the field unit staff to take the following actions:

- Determine the availability and cost of the rehabilitation supplies (e.g., seed proposed for planting).
- Begin making arrangements for the cultural and threatened and endangered species clearances, including coordinating with agency contracting specialists.
- Determine the availability and makes preliminary arrangements for necessary equipment.
- Prepare a cost/risk analysis (Exhibit 7-4) that includes the proposed action, no action and alternatives for all proposed rehabilitation projects on the burned area.

- Coordinate with the agency administrator and with affected or interested parties regarding proposed emergency stabilization and/or rehabilitation practices.
- Coordinate with the Regional/State Office on complex or controversial Burned Area Rehabilitation funding issues or technical questions.

ESR Plans can be developed using the ESR Plan template (Exhibit 7-5) which can be expanded or contracted as needed. Information needed to complete the plan includes:

- Agency review and approvals
- Summary fire narrative and ESR treatments needed
- Fire location and background information
- Type of plan (i.e., emergency stabilization, rehabilitation, initial submission, amendment)
- Emergency stabilization and or rehabilitation objectives
- ESR planning team organization and memberership
- Individual treatment specification and summary of all treatments by funding source
- Post Burned Area Rehabilitation subactivity funding needs
- Consultations made by the ESR planning team
- Burn area assessments
- Environmental compliance documentation (See Exhibit 5-2)
- Maps, photo documentation, supporting documents, etc.

7.8 ESR PLAN APPROVAL

The ESR team completes the ESR Plan and obtains an initial review from policy, technical, or other interested parties, prior to the submission of the plan to the agency administrator. If, for some reason problems are defined, they should be worked out before the plan is submitted for approval. The agency administrator obtains final approval from the appropriate official for the emergency stabilization section within 17 calendar days from wildland fire control for multi-agency ESR Plans (7 days for review). Agency specific plan approval policies deadlines are as follows:

- USFS
- BLM
- NPS
- BIA

- FWS

The agency administrator, ESR team or approving official is encouraged to request input from the Regional and/or Washington Office fire management staffs on any ESR Plan. The use of electronic means of transmitting ESR Plans is encouraged. Approval of ESR Plans may be as simple as a phone call, followed by hard-copy documentation.

ESR Plan amendments are approved by the same individuals that approved the original ESR Plan.

7.9 TRANSITION TO ESR PLAN IMPLEMENTATION

Normally, ESR Plan development personnel are the same personnel assigned to implementation. The planning effort is normally done over a two to three week period during or immediately following fire suppression. The implementation efforts may be initiated during this same time period, but may continue on for months or even years following the incident.

Sometimes the planning and implementation personnel are different (i.e., standing ESR planning team and field unit implementation personnel). In this case the importance of preparing a plan transition memo (from ESR planning team to the affected agency administrator(s)) with implementation recommendations, Chronology Report (Exhibit 7-6), and turning over all ESR Plan file(s) cannot be overemphasized. These measures should help to insure a clean, organized transition from the ESR planning to implementation. It is also critically important that the departing ESR planning team conduct a proper close out and transition meeting with the affected agencies to discuss the findings of the burned area assessments, treatment proposals and other mitigation measures, approval and funding procedures. This transition meeting should include the following key transition individuals (Exhibit 7-7): agency administrator, planning team leader, implementation team leader, and administrative/procurement officer. Also, the ESR planning team may be contacted by implementation personnel to explain aspects of the plan. In rare circumstances, planning team members may be asked to return to the site to provide detailed explanations, or for accomplishment reviews that are not routinely conducted by agencies.

7.10 ESR PLAN AMENDMENTS

If the initial burned area assessment(s) were incomplete or new information shows that the ESR Plan may not accomplish its objectives, the ESR Plan can be amended.

The ESR Plan template is also used to amend the ESR Plan. Amending an ESR Plan requires amending the appropriate Burned Area Assessment Report(s) providing the new information to justify amending, adding, and/or deleting one or more individual treatment specifications. Also the appropriate treatment specification must be amended, added, and/or deleted. ESR Plan amendments can be made at any time.

Plan amendments do not change any funding or reporting timelines or deadlines. The same individuals who approved the original ESR Plan must also approve any amendments to that plan (e.g., 2 growing seasons, or 3 years following control of the fire).

7.11 PROJECT MONITORING AND EVALUATION

ESR Plans must include provisions for monitoring and evaluations of treatments and techniques and a procedure for collecting, archiving and disseminating results. Treatment effectiveness monitoring needs, design, and protocols are identified in the individual treatment specifications and activities can be established and implemented for up to 3 years following fire control to determine whether ESR objectives are being met. Costs of monitoring and evaluation to determine effectiveness of treatments are covered for up to 2 years. A third year of monitoring funding is available if an Initial Accomplishment Report (Exhibit 7-8) from the first 2 years were completed and submitted. Long-term monitoring is funded by the Joint Fire Science Program or benefitting activity.

The results from the monitoring studies are analyzed, evaluated and shared with others to improve the success of future ESR projects. This includes professional societies, rehabilitation specialists, wildlife groups, resource advisory councils, etc. Sharing monitoring results in the form of workshops, tours, and professional papers. Monitoring data and reports are permanently filed with other appropriate land use management data.

Monitoring standards are found in the Program Standards section.

Exhibit 7-1 PROJECT OPERATIONS PLAN

The following is a sample outline of a Project Operations Plan for the implementation of complex, long-term, rehabilitation treatments on a large fire.

Introduction

Project Objectives

Descriptions of the Project Area

Project Organization

- Organizational chart
- Position descriptions

Communications and dispatch

Air Operations

- Typical operations day
- Weather conditions required
- Reports and record keeping
- Monitoring and accepting seed application

Structural Implementation

- Typical operations day
- Contract specifications
- Reports and record keeping
- Final acceptance and approval

Administration

- Budgeting and accounting
- T & A's
- Travel and per diem

Liaison

- Within the Forest Service
- Other Federal and State agencies

Public Information

Project Safety (ICS 215)

Exhibit 7-2 BURNED AREA ASSESSMENT

The following is general guidance into conducting a burned area assessment to determine if and what emergency stabilization and/or rehabilitation is needed. The specific individual assessments (e.g., soil & watershed, vegetation, forest, wildlife, cultural resource, public health and safety, etc.) and complexity of each individual assessment depends on the size, duration, severity, geographical and geological context of the fire, future weather, values to be protected, resources damaged, etc.

The burned area assessment is a critical element of the ESR Plan. It identifies specific resource damages caused by the fire, probability of natural recovery, and justifies whether emergency stabilization or rehabilitation treatment actions are warranted. It also provides necessary information for the cost/risk analysis and individual treatment specifications.

Resource specific Burned Area Assessment Reports are included in Appendix I of the ESR Plan.

OBJECTIVES

The objectives of the burned area assessment are to combine the expertise of several disciplines to:

- Assess on-the-ground conditions.
- Identify and define the emergency.
- Geographically locate the existing emergency, and prescribe emergency stabilization measures.
- Assist agency administrators in recommending suppression damage, emergency stabilization, and rehabilitation strategies.

There are three primary categories of assessments:

- Suppression Damage Rehabilitation (suppression damages): To identify suppression related damages not addressed by the suppression organization. Rehabilitation of these damages is usually charged to suppression accounts.
- Emergency Stabilization: To identify watershed, ecological and cultural rehabilitation stabilization requirements to be addressed by the ESR Plan and eligible for Burned Area Rehabilitation funding.

- Rehabilitation: Multi-year non-emergency restoration and recovery programs or strategies funded by Burned Area Rehabilitation for the first three years and by agency base funds or special emphasis money thereafter.

SCOPE OF THE ASSESSMENT

The scope of the assessment includes an analysis of suppression, emergency, and/or non-emergency related damages. It may include other agency and private lands affected within the fire perimeter and threatened watersheds outside the perimeter. The assessment is initiated with a broad scale reconnaissance and completed with a ground survey of the burned area. During the course of the assessment, additional rehabilitation needs may be identified regardless of funding status in order to avoid having to reassess the area at a later date. At a minimum, burned area assessmentsit should provide sufficient information to:

- Locate and stabilize severely burned slopes, which pose a direct threat to human life and property from water erosion.
- Identify watercourse stabilization strategies when necessary to protect downstream values and watershed integrity.
- Develop post-fire stabilization prescriptions that should prevent irreversible loss of natural and cultural resources.
- Locate and identify fire suppression actions requiring rehabilitation.
- Inventory and prescribe mitigation and recovery protocols for cultural sites disturbed by fire suppression actions.
- Conduct immediate post-burn reconnaissance of fire and fire suppression related impacts to Threatened and Endangered species.
- Provide monitoring recommendations intended to ensure the success of emergency stabilization and rehabilitation efforts.
- Inventory facilities, structures, and utilities damaged by fire and fire suppression actions and provide emergency stabilization and rehabilitation recommendations.

The burned area assessment are frequently subdivided into different resource disciplines with separate Fire Damage Resource Assessment Reports written for each.

- Soil & Watershed Damage
  - Stream Debris Removal Key
  - Stream Classification
- Vegetation Damage
- Forest Damage
- Range Damage
- Wildlife Damage
- Historic Property Damage
- Infrastructure/safety Damage
- Etc.

BROAD SCALE RECONNAISSANCE PHASE

The objective of broad scale reconnaissance is to obtain an overall perspective of the emergency situation. This level of assessment is of value to orient the assessment team and for further stratifying areas and more detailed on the ground investigation. Common methods of broad scale reconnaissance are:

- Post-burn aerial photography
- Fixed-wing and helicopter flights
- High elevation observation points such as mountain peaks and fire lookouts
- GPS technology

Delineation of Burn Severity and Homogeneous Areas

Burn severity, as opposed to fire intensity, is the primary factor to be considered when mapping hydrologic and associated conditions within the burned area. The objective for mapping burn severity is to predict potential erosion, runoff, and mass instability in relation to human values and critical resources at risk and to prescribe emergency treatment measures.

Broad Scale Observation Criteria

The following criteria are useful for mapping homogeneous units within which post-fire conditions and threats are determined. The primary focus is to observe terrain and fire behavior characteristics which are not identifiable during the ground assessment phase:

- Areas prone to post-fire erosion, flood runoff and mass instability
- Areas of the burn with apparently uniform burn severity
- Vegetation/habitat types burned and unburned
- Urban areas and downstream values to be protected
- Areas of fire suppression impacts (hand line, dozer line, drop points, helispots, etc.)
- Areas to investigate on the ground and access routes

GROUND ASSESSMENT PHASE

The ground assessment phase is that period which immediately precedes the development of detailed treatment specifications and usually involves the verification of broad scale observation criteria. Team specialists travel to different areas of the burn to more intensely sample the different variables to be considered in the ESR Plan. More time is usually devoted to this phase of the process than any other work element.

On-the-Ground Observation Criteria

Time may limit the amount of data that can be gathered on the ground. The availability of pre-fire resource inventories, data, and plans are assessed prior to conducting the ground assessment to determine what additional information is need to formulate emergency stabilization and rehabilitation and treatment effectiveness monitoring recommendations. In most instances, the term "sample" refers to an ocular observation made by an experienced team specialist. However, in some instances sampling can be systematic and specifically defined by pre-approved protocols (for example, tree hazards). Team members must consider the time constraints placed on the planning process and must balance the time devoted to the burned area assessment with the need to complete the required assessment report.

Safe efficient rapid travel must be done to complete on the ground reconnaissance. Savings in time are considered and evaluated in terms of cost-time tradeoffs throughout the entire assessment and planning process. For instance, helicopters are efficient means of moving team members to pre-determined sample locations or drop off points from which access can be made.

Sampling Techniques and Properties

Techniques for sampling are carefully considered and a priority assigned to each parameter to be sampled. Routes of travel may significantly affect the assessment progress rate in steep, rugged terrain. Techniques to be considered include:

- Work in a downhill direction in steep, rugged terrain.
- Use compass traverses to sample a section of a delineated homogeneous area.
- Check all potential on-the-ground problem areas tentatively identified during the broad scale reconnaissance phase of the assessment. Note questions that arise for follow-up interview with incident and field unit personnel.
- Select representative points of observation that typify conditions and characteristics within a unit delineated for its apparent homogeneity. This process essentially consists of checking predictions of conditions made during the broad scale reconnaissance part of the assessment.

ASSESSMENT CONSIDERATIONS

Personnel safety is first and foremost. Since personnel can be in the fire area when it is not yet controlled and in situations where falling snags and reburn could be a threat work, activities need to be carefully considered and coordinated with suppression operations.

The usefulness of data collected is another important consideration in selection ground assessment methods. Team specialists must be thorough and practical in the collection and documentation of assessment data. Before any subset of data is collected, individual team specialists should consider the usefulness of this data to the other team specialists. When possible they should develop sampling strategies that should eliminate duplication of efforts. Assessment findings and data collected must easily be interpreted and be fully applicable during the development of treatment specifications.

Map Selection

The assessment team should select a common mapping scale for rapid consolidation of field mapping data. The mapping scale depends on local map availability. The ease of transferring delineations from aerial photographs to base maps of the same scale is considered.

Time Constraints / Prioritizing Workload

Time constraints and prioritization of workloads depends greatly on the burn severity, total acres and values to be protected by the stabilization or rehabilitation effort. Generally speaking, a preliminary assessment report summarizing burned area assessment findings and potential stabilization or rehabilitation options is provided to the agency administrator within three days after the fire is controlled for multi-agency fires and 10 days for agency fires. Time constraints for values to be protected assessments, burned area assessments, specifications, and narrative write-ups are closely tracked. Workload priorities are dictated by fire suppression efforts, complexity, values to be protected, fire suppression rehabilitation needs, and dates of containment and control. Team members should complete applicable work assignments within established time constraints.

Record Keeping and Documentation

A method of record keeping to systematically file field data is established. Tabulations, notes (ICS-214 included), photographs, and video footage is documented in terms of who, what, where, when, and how they were prepared. Narratives are completed to support photo documentation. All map symbols and photographs are labeled in suitable legends using standardized symbols.

A written report covering each resource (i.e., soil and watershed, vegetation, forest, wildlife, cultural, etc.) damaged by the fire is included in Appendix I of the ESR Plan.

Potential Emergency Stabilization Issues

Examples of issue areas and/or damages within a assessment area include:

- Human life and property values subject to hazards from flooding, floating debris, erosion, and/or sedimentation by fire or suppression of the fire.
    - Community and urban developments
    - Municipal and domestic water supplies
    - Transportation systems
    - Water distribution systems (irrigation)
    - Agricultural developments (crops, facilities)
    - Industrial developments (dams, power, manufacturing)
    - Power and communication lines
    - Recreation developments
- Watershed conditions that threaten life, property, or critical resources through flooding, floating debris, or sedimentation.
    - Channel constrictions, obstructions, impoundments, and diversions
    - Water repellent and impermeable soils above, within and below the affected area
    - Sub-basins below the burned area which may contribute to downstream damage
    - Areas of mass instability subject to slides, slumps, slips, and mudflows
    - Areas significantly disturbed by fire suppression activities
    - Existing or potential water quality problems
- Range management issues - Areas of over grazing within the existing watershed.
- Natural resource issues - Threatened and Endangered Species associated habitat (flora/fauna), and wilderness values.
- Cultural, archeological, and historic resources issues - Fire and suppression damage to known properties and the discovery of previously unknown properties.
- Non-native invasive species - Established populations and invasion potential.
- Ecosystem structure and function - Recovery potential and risk of unacceptable change.

Rehabilitation

Rehabilitation measures are those treatments which are considered, but are not of an emergency nature. Although rehabilitation measures may not require implementation immediately after a severe fire, documenting these needs during this assessment should avoid the need to reassessment the burned area. This data are used to develop the rehabilitation section of the ESR Plan

designed to effect complete recovery. Rehabilitation objectives are to:

- Maintain the emergency stabilization treatments beyond 3 years until they have accomplished their purpose and removal if necessary.
- Rehabilitate the site to standards established in approved field unit management plans.
- Hasten the natural process of recovery.
- Repair or replace fire-damaged facilities.
- Take advantage of the reduced fuel level to initiate preplanned actions require vegetative type conversion, such as:
    - Fuel breaks.
    - Rights-of-way for power lines, fences, waterlines, range improvements, off-road vehicles, etc.
    - Water yield increase projects.
    - Snowpack management areas.
    - Key wildlife area improvement.
    - Experimental areas.

Burned area rehabilitation may take many years to accomplish, but the process begins with the decisions and process that are made during the first three years after the fire. If properly coordinated, the rehabilitation process should not destroy or damage the emergency stabilization treatment measures. With good resource management, the emergency stabilization treatments can be phased into the rehabilitation process. Proper rehabilitation treatments can foster better long-term results.

Opportunities For Improved Management

Record opportunities for improved management under post-burn conditions. For example, previously unknown seeps and springs may respond to reduced transpiration losses and begin increased flows within a few hours or days after fire. Such opportunities for new water developments through follow-up vegetation management are noted for the agency administrator's consideration.

TREATMENT EFFECTIVENESS MONITORING

Note locations that are particularly suited for photo points, permanent plots, rain gauges, and erosion and sediment measurements in order to monitor treatment effectiveness.

Exhibit 7-3 AGENCY ADMINISTRATOR'S BRIEFING

After completing the burned area survey, the Team Leader must make an agency administrator briefing. This briefing must provide sufficient information and detail for decision making.

Objectives

- Provide information about emergency conditions created by the fire.
- Provide an assessment of the environmental, social and economic damage and rehabilitation needs.
- Provide recommendations for specific treatment of the burned area.
- Provide a description of the probability of treatment success and the timing of the treatment efficiency.

The briefing should be efficient and thorough. Each Team Member presents a synopsis of their individual assessment. Encourage questions about treatments and rehabilitation assumptions. Make sure that resource values and probabilities of success and failure are clear to the agency administrator. Thoroughly discuss the idea of a "fall back" strategy and the potential for funding the "fall back" plan if a primary treatment fails. Make sure the agency administrator knows the following:

- What the emergency is
- What the prescribed treatment(s) area and who performs each treatment
- What each treatment costs
- How successful the treatment is expected to be
- What should be done if the recommended treatment fails
- What types of long-term monitoring is required and the association commitment of park staff.
- What is funded via the fire suppression account and ESR sources. Specify the requirement that rehabilitation treatments be address in field office management plans and base funding is needed beyond 3 years.

Whenever possible, agency administrator briefing is done in the presence of the IC and the local resources management staff/wildland fire resource advisor; both must review and support the final ESR plan. Also, the IC is in a better position to direct Division Supervisors/Crew Bosses in relation to short-term rehabilitation needs (suppression impacts).

Some points of emphasis relative to the briefing environment:

- Team Members wear appropriate attire; either nomex or their home uniform.
- Presentations are well organized and rehearsed. Team Members should make use of visuals and handouts when appropriate.
- Use a formal meeting setting to present briefing. DO NOT USE FIRE CAMP!
- Keep the briefing short and precise.
- Advertise the briefing to ensure all key personnel are notified.

Exhibit 7-4 INSTRUCTIONS FOR COMPLETING MODIFIED COST/RISK ANALYSIS

This cost/risk analysis form is designed to allow the comparison of a "no action,", e.g. no rehabilitation treatments to the proposed action and alternatives. The total costs for the major rehabilitation actions are listed and the probability of successful implementation of selected treatments are estimated on Part 1. You may add categories in either of these tables if the listed entries are incomplete.

Part 2, the risks to natural resources and private property are qualitatively evaluated for the proposed action, no action and alternatives. Instead of assigning a dollar value to the values at risk, a rating (None, Low, Mid and High) for the potential for unacceptable impacts for each action is selected. These ratings are made by the interdisciplinary team (IDT) based upon literature, experience and knowledge.

Part 3 contains the Summary where the information contained on the previous parts is used to determine if the risks to resources are high, if the probability of success is high enough to warrant implementation of proposed practices and which proposed practices are implemented. Again, the entire IDT needs to be involved in this decision.

A sample Cost/Risk Analysis is attached as an illustration of this form and an example of its use. A rich text format version is available for downloading.

Cost/Risk Analysis

Part 1. Treatment Cost

Treatments	Cost
Total Cost	

Part 2. Probability of Rehabilitation Treatments Successfully Meeting EFR Objectives

Treatments	Units	%

Risk of Resource Value Loss or Damage

Identify the risk (high, medium, low, none or not applicable (NA)) of unacceptable impacts or loss of resources.

No Action- Treatments Not Implemented (check one)

Resource Value	None	Low	Mid	High

Proposed Action - Treatments Successfully Implemented (check one)

Resource Value	None	Low	Mid	High

Part 3. SUMMARY

The costs of the project and probability of success of the proposed treatments are compared with the risks to resource values if: 1) no action is taken, and 2) the proposed action is successfully implemented. Alternatives may be included in this analysis to assist in the selection of the treatments that will cost effectively achieve the EFR objectives. Answer the following questions to determine which proposed EFR treatments should be selected and implemented.

1. Are the risks to natural resources and private property **acceptable** as a result of the fire if the following actions are taken?

Proposed Action Yes |__| No |__| Rationale for answer:

No Action Yes |__| No |__| Rationale for answer:

Alternative(s) Yes |__| No |__| Rationale for answer:

2. Is the probability of success of the proposed action, alternatives or no action acceptable given their costs?

Proposed Action Yes |__| No |__|
Rationale for answer:

No Action Yes |__| No |__|
Rationale for answer:

Alternative(s) Yes |__| No |__|
Rationale for answer:

3. Which approach most cost-effectively and successfully attain the EFR objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Proposed Action |__|, Alternative(s) |__|, or No Action |__|

Comments:

Cost/Risk Analysis Example

Part 1. Treatment Cost

Treatments	Cost
Revegetation	$90,000

Protective Fence	$25,000
Soil/Watershed Structures	$10,000
All Other Costs (administrative, clearances, etc.)	$13,000
Total Cost	$138,000

Part 2. Probability of Rehabilitation Treatments Successfully Meeting EFR Objectives

Treatments	Units	%
Revegetation (overall rating)	900 ac	80
Drill Seeding (acres)	900 ac	90
Aerial Seeding (acres)	900 ac	70
Protective Fence to Exclude Grazing (miles)	8 Miles	90
Fence Repair to Exclude Grazing (miles)	20 Miles	90
Soil/Watershed Structures (overall rating)	5 check dams	70
Other-Clean culverts	2 each	70

Risk of Resource Value Loss or Damage

Identify the risk (high, medium, low, none or not applicable (NA)) of unacceptable Impacts or loss of resources.

No Action- Treatments Not Implemented (check one)

Resource Value	None	Low	Mid	High
Unacceptable Loss of Topsoil			X	
Weed Invasion				X
Unacceptable Loss of Vegetation Diversity				X
Unacceptable Loss of Vegetation Structure				X

Unacceptable Disruption of Ecological Processes			X	
Off-site Sediment Damage to Private Property	X			
Off-site Threats to Human Life	X			
Other - Loss of access road due to plugged culverts			X	

Proposed Action - Treatments Successfully Implemented (check one)

Resource Value	None	Low	Mid	High
Unacceptable Loss of Topsoil		X		
Weed Invasion		X		
Unacceptable Loss of Vegetation Diversity		X		
Unacceptable Loss of Vegetation Structure		X		
Unacceptable Disruption of Ecological Processes		X		
Off-site Sediment Damage to Private Property	X			
Off-site Threats to Human Life	X			
Other - Loss of access road		X		

Part 3. SUMMARY

The costs of the project and probability of success of the proposed treatments are compared with the risks to resource values if: 1) no action is taken, and 2) the proposed action is successfully implemented. Alternatives may be included in this analysis to assist in the selection of the treatments that cost effectively achieves the EFR objectives. Answer the following questions to determine which proposed EFR treatments should be selected and implemented.

1. Are the risks to natural resources and private property **acceptable** as a result of the fire if the following actions are taken?

Proposed Action Yes |_X_| No |__|
Rationale for answer: Major weed invasion (cheatgrass and knapweed) greatly reduced with successful seeding. Wind erosion will be reduced to acceptable level. Probability of future fires is reduced and seeding provides diversity (grass/forb/shrub seed mixture for wildlife) and to meet rangeland health standards in Land Use Plan. Seeding and fencing costs are satisfactory considering seed mixture, topography and distance for contractor to travel to work.

No Action Yes |__| No |_X_| Rationale for answer: Items discussed in Proposed Action may not be met

if no rehabilitation treatments are applied. Without seeding and protection from grazing the burned area may become a fire prone cheatgrass monoculture with knapweed infestations. Land Use Plan objectives for wildlife and rangeland health may not be met and soil erosion may increase.

Alternative(s) Yes |__| No |__| Rationale for answer: NA, no alternatives other than No Action considered in EA.

2. Is the probability of success of the proposed action, alternatives or no action acceptable given their costs?

Proposed Action Yes |_X_| No |__| Rationale for answer: Past experience indicates that a seeding on the types of soils in the treatment area are successful given normal climatic conditions and exclusion of grazing for 2-3 growing seasons.

No Action Yes |__| No |_X_|
Rationale for answer: Fires on these soil types with the pre fire understory dominated by cheatgrass become cheatgrass monocultures if a seeding is not established.

Alternative(s) Yes |__| No |__|
Rationale for answer: NA, no alternatives considered in Environmental Assessment.

3. Which approach most cost-effectively and successfully attain the EFR objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Proposed Action |_X_| , Alternative(s) |__|, or No Action |__|

Comments: None

Exhibit 7-5 ESR PLAN TEMPLATE INSTRUCTIONS

The ESR Plan Template was developed to facilitate Burned Area Emergency Stabilization and Rehabilitation Plan development, review, implementation, and coordination. In can be expanded or contracted as needed. Key sections of the Plan are:

- Burned Area Assessment Report (Appendix I) - These reports provide the foundation for treatment specifications and the information necessary for agency administrators to determine if the treatment specification are compatible with land management planning and appropriate for the funding source indicated in the treatment specification.
- Individual Treatment Specification (Part F) - The individual treatment specifications provide the detailed description of what emergency stabilization or rehabilitation activities are recommended and how the effectiveness of each activity is monitored.
- Environment Compliance (Appendix II) - This section document the environmental compliance process used.

First download 3 WordPerfect (.wpd) files (also accessible with MSWord 97 or greater):

- esrplan.wpd - Master ESR Plan Template
- specification.wpd - Individual treatment specification file
- assessment.wpd - Individual fire damage assessment report file

Open the Master ESR Plan Template file in Wordperfect, MSWord etc.

Find and replace all YYYYY with the name of the fire. Find and replace all XXXXX with the name of the specific field unit. (Edit/Find and Replace)

Throughout the plan replace all italics text with requested or plan specific information. See Individual Section Instruction below.

Use the 24 Command and Emigrant Fire Plans as examples of the type of information for inclusion in the ESR Plan Template

- 24Command.pdf
- EmigrantFire.pdf

The following Rich Text Format (.rtf) files are needed for ESR Planning and plan reporting

- native-nonnative.rtf - Native/non-native Plant Worksheet
- cost-risk.rtf - Cost/Risk Analysis
- initial-accomplishment-report.rtf - Initial Accomplishment Report
- final-accomplishment-report.rtf - Final Accomplishment Report

Individual Section Instructions

COVER PAGE

Replace the italic text with the requested information.

REVIEW AND APPROVAL PAGE

Obtain the appropriate approval(s) and concurrence(s). Approvals and concurrences may differ between agencies. Check individual agency ESR policies for details.

EXECUTIVE SUMMARY

Replace the italic text with the requested information. Replace all examples with plan specific information.

TABLE OF CONTENTS

When the plan is completed, complete or generate a page numbers. (Tools/Reference/Table of Contents)

PART A

Fill in the table and replace italics with specific information.

PART B

Check the appropriate box.

PART C

Replace the italic objectives with the plan specific objectives.

PART D

Fill in the tables with the appropriate team member and resource advisor name(s).

PART E

Insert the correct date. Fill in the Specification Cost Summary table from the appropriate Summary of Fire Suppression Damage Rehabilitation, Emergency Stabilization, Rehabilitation, Agency Operations, and Other Accounts tables. Fill in the Summary of Fire Suppression Activity Damage Rehabilitation, Emergency Stabilization, Rehabilitation, Agency Operations, and Other Accounts from the Individual Treatment Specifications in PART F. Completed only after all Individual Treatment Specifications are inserted in PART F.

PART F

Fill in all information in all sections (I, II, III) of the individual Specification. The individual Fire Assessment Damage reports provide most of the necessary information. Use the 24 Command Fire BAER Plan as an example of the type of information required. Insert as many Individual Treatment Specifications (specifications.wpd) as necessary.

PART G

Identify the post-rehabilitation actions and estimated costs and funding source(s) that must continue following curtailment of Burned Area Rehabilitation subactivity funding.

PART H

List all consultations made during the preparation of the plan.

APPENDIX I

List all the necessary individual Burned Area Assessment Reports that follow.

Using information gained from the broad scale reconnaissance and ground assessment, prepare and insert all necessary Burned Area Assessment Reports (assessment.wpd). Title each assessment appropriately and complete all sections. Refer to the 24 Command example for the information required.

APPENDIX II

Replace the italic text with the requested information and list partners and neighbors consulted. Complete all checklists and obtain all necessary signatures.

APPENDIX III

Insert all maps.

APPENDIX IV

Insert all photo documentation.

Exhibit 7-6 CHRONOLOGY REPORT

DISPATCH

- Begin Unit Log:
  - Date and Time of Dispatch Call
  - Fire Name & Number
  - Resource Order Number (your "O" number)
  - Reporting Time & Location
  - Dispatcher Name, Phone, and Unit
  - Special Orders and Requests

Travel Arrangements:

- Blanket Travel Authorization
- Dispatch to Make Round-trip Flight Arrangements
- Rental Vehicles: Be sure you have transportation on incident.
  - Ops. Spec. - 4x4
  - Doc. Spec. - Minivan
  - Soils - 4x4, pickup, or 4-door mid-size
  - Team L. - 4x4, pickup, or 4-door mid size
- Any additional needs are communicated or provided by Logistics.

Check-In:

Briefing:

- Provided by agency to identify resource issues, concerns, and objectives as well as current fire status. Also identifies agency resource specialists available to team.

Reconnaissance:

- Aerial (Ops. Spec. arranges)
- Ground (radio, shift plan, notification)

Administrative:

- Time Sheets
- Unit Logs

- Whereabouts
- Daily Briefings

Treatment Specifications: (completed first so that equipment, materials, personnel, etc. can be ordered)

- Suppression Impacts not covered in Incident Management Team close-out
- Fire Effects

Assessment:

- Close-Out Briefing:
- Issues
- Observations
- Recommendations

Demob:

Exhibit 7-7 KEY TRANSITION INDIVIDUALS

IMPLEMENTATION TEAM LEADER

Designating a full time Implementation Team Leader to oversee the project is the responsibility of the agency administrator. This should be done as early in the survey process as possible, especially in the case of a large fire. An effective Implementation Team Leader is one (or more) of the following:

- A ESR planning team member that is willing to stay on.
- A unit employee that is familiar with the area and the types of treatments to be implemented.
- An experienced Implementation Team Leader from the agency.

Often an Implementation Team Leader can play a large role on a ESR planning team. An experienced individual, utilizing their practical knowledge of why, where, what, costs and suppliers of specific treatments, could be referred to as a "reality check" for the team.

IMPLEMENTATION TEAM MEMBERS

Hydro and Soil Techs that were planning team members can also transfer to the implementation team as technical advisors or specific operations positions. Their knowledge of the fire area, fire history, and local conditions would be invaluable to an implementation team.

Transition Meeting

PLANNING TEAM LEADER

The planning team leader is responsible for ensuring that an orderly transition from the survey team to the implementation team occurs, through coordination with the agency administrator.

The planning team leader shall establish a method of centrally and systematically filing the field data for use after the team is released. it is mandatory to identify documents, notes, and photographs in terms of where, when, what, how and who prepared them. A comprehensive narrative should include references to all available information. Identify all symbols on maps and photographs in suitable legends that include a title, date, and name of

prepares.

Survey team leaders shall ensure that adequate financial and administrative records are maintained to summarize team costs.

IMPLEMENTATION TEAM LEADER

The implementation team leader designated by the agency administrator is responsible for maintaining communications between the implementation team and the survey team, other agencies, and the public.

AGENCY ADMINISTRATOR

Agency administrators are responsible for briefing implementation team members on local conditions, policies, fiscal requirements, time constraints, safety procedures and lines of authority.

ADMINISTRATIVE OFFICERS

The administrative officer is responsible for providing procurement services to the implementation team.

The transition meeting should include all of the key players including: the survey team leader, implementation team leader, agency administrator, and the administrative officer. If at all possible, the meeting should take place before the survey team is dismissed. If not, key players from both teams should be present to assure that as much information is passed on as possible.

Exhibit 7-8 INITIAL ACCOMPLISHMENT REPORT

A Initial Accomplishment Report is included in the ESR project file and sent to the Regional Fire Management Coordinator describing the treatments implemented and any changes in the actual project implementation. This Report can provide information useful in interpreting monitoring data and for future ESR project planning and implementation. The Initial Accomplishment Report should contain the following information:

Fire Name:

Fire Number:

Fire Control Date:

Agency Acres Burned:

Start of ESR Plan Implementation (Mo./Yr):

Initial Accomplishment Report Date (Mo./Yr):

ESR Plan Specifications Completed (list):

ESR Plan Specifications Not Completed (list):

ESR Plan Specifications Ignored (list):

Facilities Repaired or Replaced (list):

Miles of New Fence:

Miles of Fence Rebuilt:

Number of Soil/Watershed Structures Built:

Acres of Watershed Protected by Management Treatments:

Acres of Non-native Invasive Species Monitored:

Acres of Non-native Invasive Species Treated:

Acres Reforested:

Acres of Revegetation[1]:

Acres of Burned Area Protected for Natural Regeneration[2]

Total Acres Rehabilitated[3]:

Estimated Emergency Rehabilitation Funds Expended First Year:

Estimated Emergency Rehabilitation Funds Expended Second Year:

Total Cost (all funding sources) to Date:

Treatments Successful:

Treatments Unsuccessful (Why):

Acre of Revegetation[1] refers to the acres of the burn that is drilled, aerial seeded (with or without follow-up seed covering), seedlings transplanted, etc. Do not double count acreage with multiple revegetation treatments. For example, burned acreage that is drill seeded (100 acres) and aerial seeded (same 100 acres) is only counted as 100 acres of revegetation.

Acres of Burned Area Protected for Natural Regeneration[2] refers to burned areas that will recover to satisfactory vegetation by grazing or human use exclusion. Protection measures include closures, fencing, herding, etc. This designation does not refer to burned areas that will recover to unacceptable vegetation, e.g., weeds or to revegetated areas already accounted for in **Acres of Revegetation[1]**.

Total Acres Rehabilitated[3] equals the acres of revegetation plus acres of burned areas protected for natural regeneration.

If revegetated discuss:

- Seed mixtures, dates and actual rates of application.

- Results of actual Seed Lab tests for purity, germination and noxious weed content. Labels on seed bags are not always an accurate source of information for purity and germination, especially when shrubs with low germination or purity are used (examples: big sagebrush, winterfat and forage kochia).
- Describe the soil, plant and climatic conditions during the seeding operation that would affect the establishment or success of the seeding (examples: frozen ground, heavy weed competition, rodent populations, dry soils, etc.).
- Describe type and condition of equipment used and its effectiveness in doing the intended job.
- Briefly describe the performance of the contractor or force account work (examples: delays in getting work done, did they actually seed all of the intended area or not, did they maintain the equipment in good working order, etc.).
- Include a map if needed to show different treatment areas described above.

Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook

This page was last modified 03/01/02

8 ESR PLAN IMPLEMENTATION

8.1 IMPLEMENTATION OF TREATMENTS

Actions to implement emergency stabilization treatments should begin immediately upon plan approval. Implementation should begin as soon as necessary to complete the treatment prior to the rainy season, onset of winter, weather, or other shutdowns. However, periodic invasive species monitoring and control may extend well into the next growing season. Clearances (cultural, sensitive species, etc.), equipment, and seed availability may also delay implementing emergency stabilization treatments in a timely manner. Therefore, potential delays or issues should be addressed early in the implementation process to facilitate completion of treatments at the proper time, including out-year treatments, to insure maximum probability of success. All protective exclusion fence installation or other animal control measure should be completed prior to damaging animal use of the burned or unburned adjacent lands.

Implementation complexity increases dramatically in situations where wildland fire has burned across agency boundaries. In addition to increased technical complexity, individual agencies have unique policies and, in the past, interagency teams had to deal with different revision, responsibility, timing, and formatting requirements, not to mention different contracting, purchasing, and procurement protocols. The purpose of this section is to provide a uniform implementation process for interagency rehabilitation teams. This uniform process should increase efficiency during the implementation process.

8.2 RESPONSIBILITY AND COORDINATION

Unlike the ESR planning effort, which is often done by a single interagency

team, each affected agency identified in the ESR Plan must assume the overall responsibility for the implementation of treatments on its lands. Private, state, county, and city lands are typically coordinated by the Natural Resources Conservation Service (NRCS) through the Emergency Watershed Program (EWP). Whenever possible, treatment implementation can be coordinated across agency lines by "piggy-backing" on existing contracts, sharing contractor's officer representative (COR) responsibilities, etc. This type of cooperation between agencies charged with the implementation of similar or identical treatments within the same fire perimeter in not only possible, but is highly encouraged as an opportunity for real cost savings and management efficiency.

8.3 TIMING

The agency must ensure that approved funding is available to the affected field unit. The implementation phase is initiated immediately following plan approval. The intent is that work seamlessly continue between planning and implementation phases and between fiscal years.

8.4 PLAN AMENDMENT AND APPROVAL

The affected agency is responsible for submitting plan amendments to the appropriate office for funding approval during the 3 years following control of the fire. The revision requires an amendment to the original plan.

8.5 PROJECT MANAGEMENT

A project implementation leader must be assigned to assure all ESR Plan treatment are completed on time and according to specifications. Depending on the complexity of the plan, this may be a collateral or full time duty. The project implementation leader's duties include:

- Supervising ESR Plan and individual treatment implementation
- Equipment and supply procurement
- Contract supervision
- Coordination with regional/state ESR coordinator.

Treatments must conform to federal procurement laws, rules and regulations relative to appropriate use as spelled out in this handbook, agency and Departmental manuals. The approved Burned Area Rehabilitation spending

authority is issued for the period of time (up to 3 years following control of the fire) needed to complete treatments and monitoring. After submission of the final accomplishment report (3 years and 60 days following control of the fire), Burned Area Rehabilitation obligations cease and unspent funding authority is withdrawn. Accurate actual cost accounting records of expenditures must be kept by fiscal year in the accomplishment report.

8.6 COST ACCOUNTING

Monthly expenditure registers, providing detailed itemization of paid, obligated and estimated expenditures, are the official financial records used for accounting. Agency specific cost tracking processes are used to accurately track expenditures. The complexity of the rehabilitation project dictates the complexity of the cost tracking system. Some factors to consider include:

- The establishment of separate work or project codes within the overall Burned Area Rehabilitation account number to track funding appropriated and spent for each treatment specification found in the plan is useful for tracking expendatures. Funding required for administrative program support should also be tracked to a separate treatment specification (and project code) described in the plan. Additional account numbers may also be needed if the same treatment is conducted using other source funds. Maintain a separate account number for suppression rehabilitation as part of the fire suppression cost.
- Non agency implementation team members are covered by an agency reimbursement authorization for salary, travel and per diem expenses issued by the host agency (ESR implementation activity cannot be charges to fire suppression). The affected agency must establish reimbursable account codes.

8.7 PROJECT RECORDS

Accurate and up-to-date records of estimated and actual expenditures must be kept. An Implementation Cost Unit Leader may be necessary when implementing complex projects involving multiple funding sources or agencies/bureaus. Separate project work plans to support each account number for different emergency rehabilitation measures and monitor accomplishments by planned projects to facilitate local record keeping necessary to complete the accomplishment report may be needed. Projects should be structured in order to reduce the local administrative unit record keeping. Itemizing by administrative unit cost may involve pro-rating crew time

when crews work on more than one treatment type.

8.8 ORGANIZATION

The affected agency administrator is responsible for providing procurement services. The ESR implementation team leader is responsible for establishing working relationships with the administrative staff areas for contracting and purchasing. The implementation team leader is also responsible for working with the administrative officer and agency administrator early in the implementation phase to secure the necessary procurement expertise.

8.9 PROCUREMENT

When appropriate, the affected agency administrator should identify a person to act as Comptroller to resolve agency specific policy and facilitate implementation.

The Federal Property and Administrative Services Act of 1949 (41 U.S.C. 253(c)(2)) authorizes exceptions to full and open competition for procurement in excess of $25,000 (FAR 6.302-2) for situations of unusual or compelling urgency. For procurement under $25,000, simplified procedures shall be used under 41 U.S.C. 253(g), and agencies shall promote competition to the maximum extent possible.

Capitalized equipment cannot be purchased with emergency funds unless it can be documented that purchasing equipment is more cost effective than renting equipment and is in the best interest of the government. These purchases are typically approved at the highest level of procurement authority within each agency.

See Procurement Information for Service and Supplies (Exhibit 8-1) for examples of the type of procurement information that is needed.

8.10 PURCHASING AND CONTRACTING

Purchasing and general contracting are broken down into two categories: Simplified Acquisition below $100,000, and sealed bids or requests for proposals greater than $100,000. Procurement is predominantly through open market rather than sole-source processes. Emergency situations often justify using streamlined procedures allowed under the Federal Acquisition

Regulations (FAR).

Procurement under $100,000:

- Procurement under $100,000 is commonly considered simplified purchasing, and would be handled under typical open market methods according to requirements in FAR, Part 13. The following purchase methods all have application under the $100,000 limit:
  - Impress account funds (up to $500/purchase for non-emergency can be raised to $1000 for emergencies)
  - Blanket purchase agreements (BPA)
  - Over-the-counter purchases with credit cards or checks
  - Purchase orders, or Procurement Request
  - Emergency equipment rental agreements (OF-294)
  - Credit Cards/third Party Drafts
- Common items used in rehabilitation work can be purchased through open market processes by receiving oral quotes, with an effort to obtain at least three quotations. Specifications are generally needed for non-personal services and are required for all construction over $2000.

Procurement Over $25,000:

- Specifications and a work statement describing the services and supplies needed for procurement over $25,000 need to be prepared for the Contracting Officer. These documents serve two purposes: they are included in the contract, and also support a Competition in Contract Act (CICA) waiver. The Contracting Officer prepares a written justification supporting other than full and open competition based on the unusual or compelling urgency of the situation. The completed rehabilitation provides most of the information needed in the justification.
- The justification allows deviation from the normal CICA required advertising periods. An effort should be made, however, to obtain price proposals and offers from as many potential sources as is practical under the circumstances. Specific direction for justifications is contained in section 6.303-2 of the Federal Acquisition Regulations (FAR 6.303-2).

- For procurement actions over $25,000 and less than $100,000, a procurement official one level above the Contracting Officer may grant approval. For actions between $100,000 and $1,000,000, the Director of Procurement for the agency/bureau may grant approval, and for over $1,000,000, the agency/bureau or Departmental Head may grant approval. Submit requests electronically for immediate procurement to ensure rapid turnaround times.

8.11 CONTRACT INSPECTION

For every contract written and every treatment installed it is necessary to inspect the work completed. The inspection should verify that the work was completed according to the contract specifications. Contractors should not be issued final payment until the inspection is completed and the work is acceptable.

8.12 TREATMENT AND PROJECT MONITORING

Monitoring and evaluation of post-fire treatments are critical for understanding and improving such treatments. Collection and dissemination of information are valid parts of all post-fire treatments.

Treatment specifications must include provisions and procedures for monitoring and evaluation of each treatment and technique. Procedures for collecting, archiving and disseminating results are also necessary. Monitoring and reporting must be as simple as possible to insure the completion of these activities. Another aspect to monitoring for treatment effectiveness is to monitor for treatment failure and/or maintenance of treatments. An Initial Accomplishment Report is prepared and distributed within 2 years following control of the fire. This Initial Accomplishment Report contains information on treatment effectiveness and is required in order to continue to receive Burned Area Rehabilitation to monitor treatment effectiveness for an additional year.

To provide for accountability for funding approved, a standardized, interagency accomplishment report must be filed with the approving official. The submission of the final accomplishment effectively close the Burned Area Rehabilitation account. This must be done within 3 years and 90 days from the control of the fire. Work on any treatments longer than 3 years after control of the fire is funded with agency base operating funds or some other funding source.

Responsibility and Coordination

Each agency is responsible for the planning and implementation phases for monitoring and accomplishment reporting. In multiple jurisdictional fires, agencies are encouraged to coordinate similar treatment implementation activities as a cost effective measure. Agencies must ensure that monitoring and reporting are carried out in an accurate and timely manner. The agency is responsible for planning and monitoring to ensure adequate funding is available and submitting the accomplishment reports.

Treatment effectiveness monitoring procedures are identified in the ESR Plan individual treatment specifications. The monitoring specification should document the suggested monitoring protocol, personnel/equipment needed, and the necessary funding to carry out the monitoring over the recommended timeframe. It is the responsibility of the field unit to document the results of the monitoring and the agency to disseminate the information.

Funding for monitoring activities requires submission of report(s) on success/failure of installed treatments or of the vegetative recovery of the burned area. Each agency may determine the frequency with which these reports are submitted. ESR coordinators should ensure that monitoring results are widely disseminated.

In some instances, an agency may determine that treatment effectiveness monitoring may be necessary/beneficial beyond the 2 years provided by Burned Area Rehabilitation funding (3 years with the submission of an initial accomplishment report). Funding for monitoring beyond 3 years must come from the agency's base operating funds or some funding source other than Burned Area Rehabilitation funding.

Types of Treatment Monitoring

Burned Area Emergency Rehabilitation measures once implemented must be observed or monitored over time. Of the many types of monitoring available, two types lend themselves to the post-fire needs. See 6.11, Monitoring in Program Standards Chapter.

Implementation - This type of monitoring assesses whether ESR activities were carried out as planned. Typically this is done as an administrative review and does not involve measurements. This qualitative process should be used during

and shortly after the implementation phase to simply determine whether or not additional work needs to be done to bring various applications up to planned standards. An ESR Plan amendment may be necessary based on results from implementation monitoring for expanded or additional treatments.

Prerequisite - Monitoring may be needed to determine if a treatment is needed (i.e., invasive species control). In this case the treatment specification must include a threshold level where the treatment is initiated (e.g., presence of Canada thistle, 3 percent cover of cheatgrass, etc.) and the management action is undertaken (e.g., mechanical removal, broadcast application of OUST, etc).

Effectiveness - While implementation monitoring is used to assess whether a particular activity was completed as planned, effectiveness monitoring is used to evaluate whether the installed treatment had the desired effect. Monitoring of treatments may be conducted up to 2 years following control of the fire (3 years with the submission of an initial accomplishment report). Some examples of effectiveness monitoring include: contour felled logs or straw bale check dams. For example, contour felled logs are designed to slow runoff, cause it to drop its sediment load and afford an opportunity for it to soak into the ground. Local rill erosion can be measured as can amounts of sediment stored behind the logs.

8.13 SOURCES OF SUPPLY

Administrative units should anticipate (programmatic planning) and arrange for supplies, equipment, and services normally required for burned area emergency rehabilitation work before the fire season whenever possible. These arrangements include blanket purchase agreements, open-end contracts, emergency equipment rental agreements, and so forth. Such arrangements may be done in conjunction with fire management (see NWCG Interagency Fire Business Management Handbook).

Seed Purchase - Seed purchase is often the single largest procurement item for a given rehabilitation effort. Problems with supply availability and certification of purity, germination, and noxious weeds all can contribute to delays in both acquisition and accomplishment of the emergency work in a timely fashion. Pre-incident planning could substantially reduce the risk of delays associated with seed purchase. Seed bid packages need to be prepared and offered as soon as possible (see Proposed Seed Mixture example).

8.14 HUMAN RESOURCES

Regular personnel and contract personnel are the most commonly used human resources for accomplishment of emergency rehabilitation work under normal pay practices. Agencies may shift base eight personnel costs or back fill in accordance with standard procedures. Casual employees on the AD pay plan are also allowed to perform emergency stabilization work.

8.15 ACCOMPLISHMENT REPORTING

The agency administrator reports accomplishments on projects and expenditures of funds under the emergency funding authority by completing a final accomplishment report (Exhibit 7-9) within 3 years and 90 days following control of the fire or 90 days following completion of **ALL** Burned Area Rehabilitation subactivity planned and funded work. The submission of this report closes the Burned Area Rehabilitation accounts.

To ensure reasonably accurate cost reporting, all reports involving finances and expenditures, both interim and final, formal and informal, should be reviewed by the Budget and Finance Officer at the field level before they are submitted to the next higher level.

The field unit is responsible for completing a final accomplishment report within 3 years and 90 days following control of the fire. This report is a complete statement of what ESR activities were actually completed. This report should contain: "what worked well;" "what didn't work as planned;" and "what was done to correct what didn't work as planned." The information to be documented in the final report includes:

- The original specification and subsequent submissions
- What was actually done
- Funding requested, approved, disapproved, modified
- Completion date of the treatment
- Projected follow-up and the funding source
- Assessments for each of the resources affected, e.g., cultural, forestry, vegetation, soil and watershed, etc.

8.16 PROJECT MAINTENANCE

In some projects, emergency rehabilitation measures may require maintenance

to ensure continuous and effective functioning and to protect the financial investment in the treatment. Adequate maintenance must be provided until the conditions specified in the emergency rehabilitation plan are met and the treatment measures are no longer needed. Structures used in rehabilitation may be removed rather than maintained or replaced after they have outlived their design life and after the conditions in the plan are met.

Maintenance and removal of emergency measures are funded through Burned Area Rehabilitation funding for up to three years after control of the fire. If this removal occurs after the three year Burned Area Rehabilitation funding period, removal costs must be programmed and charged to the appropriate agency base funding account.

Exhibit 8-1 PROCUREMENT INFORMATION FOR SERVICES AND SUPPLIES

Drill Seeding

Purchase requisitions for drill seeding projects must contain the following information for seeding with rangeland or grain drills:

- Approximate acreage to be seeded
- Approximate starting date
- Number of days to complete the work
- Location of seed
- Type of seed and rate of application
- Average depth of seeding in inches
- How the measurement for payment are made (e.g., Global Positioning System work, aerial photos, maps)
- Work location maps
- Estimated cost and charge codes
- If rangeland drills are to be provided by the Government, furnish the following additional information:
- Number of drills to be furnished
- Location of drills
- Location of spare parts
- How many drills can be pulled by each tractor

Aerial Seeding

For aerial seeding projects, early contact with the Regional, District or State Aviation Manager is strongly encouraged. Specifications must include:

- Approximate acreage to be seeded
- Approximate starting date
- Number of days to complete the work
- Location of seed
- Type of seed
- Rate of seed application per acre
- Work locations map
- Type of aircraft and capabilities
- Who furnishes a ground crew for handling seed and loading the aircraft
- Who furnishes the flaggers and flagging materials

- Estimated cost and charge codes

Cultural Clearances

Any project that disturbs the soil surface requires a Cultural Inventory for clearance or mitigation. Specifications should be prepared by the Regional Archeologist before the need arises. A bidder's list should also be developed listing firms that can act quickly to fulfill the need. If cultural clearances are required year-after-year, consider establishing Requirements Contracts, Basic Ordering Agreements, or Master Solicitations.

Supply Contracts for Seed Purchases

The local suppliers are often the first place to check for seed availability because the seed is already tested and can be planted immediately. If the local sources cannot supply the desired seed, an open market purchase may probably be needed. Time is critical because it may take 90 to 120 days or more for solicitation, award, delivery, testing and acceptance. It may be possible to be included on a consolidated purchase with other offices. Purchase requisitions for seed must include the following:

- Common name, scientific name, and variety name
- Minimum percent purity and germination
- Quantities required (in bulk pounds)
- Where seed is to be delivered
- When seed is to be delivered
- Certified seed options or area from which seed is to be collected
- Estimated cost and charge codes

Supply Contract for Equipment Rental Without Operator

Equipment rental without operator is considered a supply contract. The purchase requisition must contain the following information at a minimum:

- Type of equipment needed
- Capacity of equipment
- Number of units needed
- Any special requirements (e.g., dual wheels, three point hitch, etc.)
- Units of payment (e.g., hours, day, months, miles, etc.)
- Rental period

- Repair and maintenance responsibility
- Where delivery is made
- Where pickup is made
- Estimated cost per unit of payment and charge codes

Exhibit 8-2 FINAL ACCOMPLISHMENT REPORT

ESR PLANS < $250,000

A Final Accomplishment Report should be included in the ESR project file and sent to the Regional Fire Management Coordinator describing the treatments implemented and any changes in the actual project implementation. This Report can provide information useful in interpreting monitoring data and for future ESR project planning and implementation. The Final Accomplishment Report should contain the following information:

Fire Name:

Fire Number:

Fire Control Date:

Agency Acres Burned:

Start of Plan Implementation (Mo./Yr):

Final Accomplishment Report Date (Mo./Yr):

ESR Plan Specifications Completed (list):

ESR Plan Specifications Not Completed (list):

ESR Plan Specifications Ignored (list):

Facilities Repaired or Replaced (list):

Miles of New Fence:

Miles of Fence Rebuilt:

Number of Soil/Watershed Structures Built:

Acres of Watershed Protected by Management Treatments:

Acres of Non-native Invasive Species Monitored:

Acres of Non-native Invasive Species Treated:

Acres Reforested:

Acres of Revegetation[1]:

Acres of Burned Area Protected for Natural Regeneration[2]

Total Acres Rehabilitated[3]:

Estimated Emergency Rehabilitation Funds Expended First Year:

Estimated Emergency Rehabilitation Fund Expended Second Year:

Estimated Emergency Rehabilitation Funds Expend Third Year:

Total Cost (all funding sources):

Treatments Successful:

Treatments Unsuccessful (Why):

Acre of Revegetation[1] refers to the acres of the burn that is drilled, aerial seeded (with or without follow-up seed covering), seedlings transplanted, etc. Do not double count acreage with multiple revegetation treatments. For example, burned acreage that is drill seeded (100 acres) and aerial seeded (same 100 acres) is only counted as 100 acres of revegetation.

Acres of Burned Area Protected for Natural Regeneration[2] refers to burned areas that will recover to satisfactory vegetation by grazing or human use exclusion. Protection measures include closures, fencing, herding, etc. This designation does not refer to burned areas that will recover to unacceptable vegetation, e.g., weeds or to revegetated areas already accounted for in **Acres of Revegetation[1]**.

Total Acres Rehabilitated[3] equals the acres of revegetation plus acres of burned areas protected for natural regeneration.

If revegetated discuss:

- Seed mixtures, dates and actual rates of application.
- Results of actual Seed Lab tests for purity, germination and noxious weed content. Labels on seed bags are not always an accurate source of information for purity and germination, especially when shrubs with low germination or purity are used (examples: big sagebrush, winterfat and forage kochia).
- Describe the soil, plant and climatic conditions during the seeding operation that would affect the establishment or success of the seeding (examples: frozen ground, heavy weed competition, rodent populations, dry soils, etc.).
- Describe type and condition of equipment used and its effectiveness in doing the intended job.
- Briefly describe the performance of the contractor or force account work (examples: delays in getting work done, did they actually seed all of the intended area or not, did they maintain the equipment in good working order, etc.).
- Include a map if needed to show different treatment areas described above.

ESR PLANS > $250,000

SUGGESTED FORMAT FOR FINAL ACCOMPLISHMENT

BURNED AREA EMERGENCY REHABILITATION ACCOMPLISHMENT REPORT Fire Name Responsible Agency

COVER

TITLE PAGE WITH SIGNATURE

EXECUTIVE SUMMARY

TABLE OF COMMENTS

SUMMARY OF REHABILITATION ACTIONS

- List each specification by title and the purpose of the specification. I
- include all specifications, even those that were disapproved, they can be grouped together

(Parts refer to the same parts as the original ESR Plan)

- PART A. FIRE LOCATION AND BACKGROUND INFORMATION
- PART B. NATURE OF PLAN
- PART C. REHABILITATION ASSESSMENT
- PART D. SUMMARY OF APPROVAL AUTHORITIES
- PART E. SUMMARY OF ACTIVITIES
- PART F. SPECIFICATION COMPLETION REPORTS (Include the original specification and subsequent submissions)
- PART G. POST-REHABILITATION RECOMMENDATIONS (Identify those activities that should continue under other funding. Identify the funding source if known or the sources applied to.)
- PART H. CONSULTATIONS
- PART I. REPORT RECOMMENDATION AND CONCURRENCE

APPENDIX I: ESR ACTIVITY ACCOMPLISHMENT REPORTS (This Assessment should identify the treatments installed (based on original ESR Plan and any amendments), their effectiveness, treatment effectiveness monitoring activities, and any activities that should continue with the use of other funding).

- Administration Assessment
- Compliance Assessment
- Cultural Resources Assessment
- Forest Resources Assessment
- Infrastructure Assessment
- Range Resources Assessment
- Soil and Watershed Resources Assessment
- Suppression Activity Damage Assessment
- Vegetation Resources Assessment
- Wildlife Resources Assessment

APPENDIX II. ENVIRONMENTAL DOCUMENTATION CONSULTATIONS

APPENDIX III. PLAN MAPS

APPENDIX IV. PHOTO DOCUMENTATION

APPENDIX V. SUPPORTING DOCUMENTATION

SUGGESTED ASSESSMENT FORMAT

FOR ADMINISTRATIVE ASSESSMENT (Includes overhead, budget, personnel hiring, procurement, travel, transportation, documentation, reporting, office space, office equipment, office supplies, etc.)

I. Objectives
II. Issues
III. Observations
A. Introduction/Background
B. Structure (Include budget, personnel, documentation, reporting, funding requests, etc.)
C. Problems/Solutions
IV. Accomplishments
V. Recommendations
VI. Consultations

FOR INFRASTRUCTURE ASSESSMENT and SUPPRESSION REHABILITATION ASSESSMENT (Includes rehabilitation of physical facilities of the resource, e.g., guardrails, safety signs, etc., also all suppression rehabilitation, e.g., handline, dozerline, helispots, basecamp, etc.)

I. Objectives
II. Issues
III. Observations
A. Introduction/Background
B. Structure/Damage
C. Problems/Solutions
IV. Accomplishments
V. Recommendations
VI. Consultations

FOR TECHNICAL ASSESSMENTS (Includes Cultural, Forestry, Range, Soil & Watershed, Vegetation, Wildlife)

I. Executive Summary/Abstract

II. Objectives
III. Issues
IV. Observations
A. Background
B. Workplan/Methodology/Project Design
C. Discussion/Analysis V. Accomplishments
VI. Recommendations
VII. Consultations
VIII. References/Bibliography